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ORIGINAL LECTURES.

INJURIES OF THE HEAD.

A Clinical Lecture,

Delivered at the Hospital of the University of Pennsylvania.

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GENTLEMEN: There are in the Hospital at present three cases of injury of the head to which I will call your attention to-day. The subject of head injuries is one of great interest and also of a great deal of importance. With the present cases I will endeavor to illustrate several more or less obscure conditions, and will try to give you a clearer view of their pathology and treatment than you would be able to obtain from your text-books.

Our first case is that of a man who yesterday morning fell from the steps of the Chestnut Street bridge. Immediately after the accident he was brought to the hospital, where, on examination, we found that he had a very severe wound of the scalp. The wound was crescentic or horseshoe-shaped, and the tissues being entirely separated, the flap thus formed was turned over the left side of the head, leaving a considerable portion of bone denuded. We could, however, detect no fracture, though whether there was present or not a fracture of the base we could not positively tell, though as no fissure could be detected passing up into the vault, we thought not, since these fissures almost invariably accompany fracture of the base. In addition to this wound, our patient presented a very interesting constitutional condition, namely, that of shock, from which he was suffering on entering the hospital. Dr. Martin took his temperature when he was admitted and found it considerably below the normal, being but 96° F. In addition to this, there was present another constitutional condition depending on a local trouble, the result of violence done to the brain; the condition known as cerebral concussion.

These conditions of shock and concussion are very often confounded together. Sometimes we see the statement that shock is particularly met with in cases of head-injury; it may, however, not only be found in connection with head injuries, but may be met with in injuries of any part of the body. It is a general condition of the whole system depending on any very severe lesion—of the arm, the leg, the head of course, or abdomen, and many of the worst cases are those of abdominal injury. The symptoms are no doubt manifested through the nervous system, but this is no reason for saying that it is a condition depending entirely on nerve structures. The condition involves all the structures of the body, the digestive organs, the lungs, and the heart as well as the nerves. Concussion of the brain, on the other hand, is exclusively an affection of the brain. We may have other varieties of concussion; for instance, we may have concussion of the nervous centres in the abdominal cavity, more particularly of the solar plexus, which is sometimes occasioned by abdominal injuries. Besides this there is also a condition of the lungs sometimes spoken of as concussion. It is a curious condition, met with where the chest has been violently squeezed, and where, as a result of this, the respiratory functions are almost

abolished, the lung not expanding and contracting with the efforts at respiration. It generally passes off in two or three hours. For want of a better name, it has been termed concussion of the lung. It is a condition somewhat analogous to concussion of the brain, but the fact that this term has been used to designate several different conditions has been the source of considerable confusion to the student as well as to the medical practitioner.

The meaning of the term concussion is a shaking. In fact, however, concussion is usually more than a shaking, as we find in every case when there is an opportunity for examination, some lesion; there are no doubt cases where the lesion might not be perceptible, but this does not disprove the presence of a lesion. Almost every one has, at some time, experienced the symptoms of concussion, at least in a mild degree, as the result of some fall or blow which has stunned him; the resulting loss of consciousness, however, passing off in a few seconds. In these conditions there is probably a stasis of the capillary circulation with temporary interruption of cerebral function. Where concussion has a fatal termination it is always attended with definite lesions. In these cases we have a characteristic lesion known as punctiform hemorrhage; a peculiar form of hemorrhage which is different from that met with where the sinuses are ruptured, as also from the hemorrhage found in apoplexy; it is a hemorrhage which has taken place from the minute arteries or capillaries in the form of minute spots or dots; it is distinguished from simple congestion by the fact that we can pick out the points, when we find that they are absolutely clots.

The dividing line between compression and concussion, in books, is frequently very sharply drawn, but it is a difference in degree rather than in kind. We meet with the same lesions in compression as we have in concussion, but the lesions are more severe. In concussion we may also have more profuse hemorrhage, as well as slight laceration of the brain, but these lesions are in most cases repaired in a very short time, and therefore leave no marks perceptible after death. Where, however, death occurs from concussion, there is nearly always some laceration, together with contusion of the brain. Where the injury is carried to a still further extent, we may have compression of the brain. Cases of compression and concussion run into each other, so that some are on the border-line, and no distinction can be made either in the symptoms or as concerns the lesion. The symptoms of the first stage of concussion are relaxation of all the tissues of the body, without, however, necessarily any depression of temperature; there is not an entire obscuration of the mental faculties, but the patient presents rather a slowness or weakness in performing mental actions. The pupils are variable; sometimes dilated, sometimes contracted, sometimes dilatation of one and contraction of the other, or they may respond differently to light; both may be movable, but irregularly movable. There is no very valuable information to be derived from the state of the pupils, though the older writers laid great stress upon their condition, saying that they were dilated in concussion and contracted in compression. When compression is present from any cause, we have complete cessation of the mental functions. The compression may come from hemorrhagic clots as in apoplexy, from bleeding from a ruptured sinus, from a

depressed fracture, or from a foreign body in the brain, as in gunshot wounds, or it may be occasioned by a secondary condition—the effusion of serum into the brain, which is known as serous apoplexy, or the formation of an abscess.

The condition of the brain itself in compression is not what probably you imagine it to be. The brain itself is really in a condition of anæmia, contrary to the popular idea, which holds that the brain is very full of blood. There may, of course, be a congestion of the brain, which may ultimately lead to compression; but whenever compression is present, though the vessels may be gorged with blood, the brain-substance itself is in a state of anæmia.

In this case, there are no symptoms of compression; nor is the concussion of such serious aspect as to indicate definite, gross lesion of the brain. When the patient came into the hospital, he was to some degree sensible; he was able to answer questions; he was able to tell how he was hurt, and he made some resisting movements when his head was dressed. Besides this, his position was characteristic of the second stage of concussion—that stage which has been described by Mr. Erichsen as cerebral irritation. He was curled up in bed, lying on his side, not relaxed: this posture is characteristic of the condition in question. The term cerebral irritation seems to me an unnecessary one, as the condition is really but the second stage of concussion. Our patient, then, was lying on his side, curled up, with his members flexed. His mental condition also was characteristic: he was irritable, drawing himself away when touched. This second stage of concussion may last from a few hours to several days, and then gives way to the third stage, when there may be gradual improvement, the third stage terminating in convalescence, or, when the injury has been more serious, we may have a condition of weak-mindedness, with increasing fatuity, and ultimately cerebral softening and death.

When our patient came into the second stage of concussion, he was not in the second stage of shock. As the second stage of shock, we have reaction, often running into a condition of fever, with a form of delirium known as traumatic delirium. This patient passed into the second stage of shock at a later period than that at which he passed into the second stage of concussion. His temperature was not above normal for four or five hours after he had passed from the first to the second stage of concussion. This morning his temperature is nearly normal, while last night it was slightly above normal. He is not going to have a very severe attack of traumatic fever.

He is not entirely rational; there is still some mental obfuscation present; this may, however, be due to the use of alcohol, under the influence of which he appears to have been when the accident occurred. This fact is in these cases always an unknown quantity.

He is doing very well. There was a little hemorrhage from the scalp wound, but this was not very great. It was dressed with the gauze and collodion dressing. We used narrow gauze strips, which have the advantage over strips of adhesive plaster, that they allow the dressing to remain more permanently; they stick better; and have the additional advantage that, by not putting the collodion over the line of the wound, the effused fluids can find their way out without disturbing the dressing. The wound, as you see, began at the median line of the occiput and swept around irregularly to the left temple, being five or six inches long. The hemorrhage occasioned by the scalp wound was controlled by pressure, applied by means of a compress and bandage. Pressure will always control hemorrhage from the scalp. The use of ligatures is not desirable in these cases, not as being dangerous,

but simply as being unnecessary; they are also difficult to apply and apt to become detached. The use of sutures, again, cannot be considered dangerous, but it is unnecessary. The older writers considered that, in using ligatures and sutures in the scalp, there was great risk of erysipelas occurring. This I do not consider to be the case; but as we should always avoid doing too much as well as too little, and as the gauze dressing and the simple compress and bandage are sufficient, I think it useless to apply either ligature or suture. Scalp wounds usually unite by adhesion, and we seldom have sloughing. In any scalp wound, no matter how much torn or bruised the tissues may be, we should be careful to keep all the parts and put them into position, and thus we will seldom have any marked loss of substance.

This case has, I hope, served to show you the difference between shock and concussion of the brain, as you see that both or either may be present and run its course without regard to the other; it may also serve to illustrate what I have said in regard to the identity in some respects, and the difference in others, of cerebral concussion and compression.

I have yet two other cases of head injury to show you. This man has been in the hospital since the 13th of September; nearly a month. He was injured while riding on the top of a railroad car, striking his head in passing under the bridge at Paoli. He had a small scalp wound; and, when admitted, there was noticed a peculiarity about his vision—he had diplopia or double vision. After a time it became evident that the patient was suffering from a severe injury of the head, and soon there was noticed ptosis of the left eye, which has now passed off to a great extent, so that it is now rather the right eye which appears prominent, than the left which appears closed. In addition to this, there was slight facial paralysis of the left side, the mouth being drawn to the right. The tongue did not appear to be affected; had it been so, it would have been protruded to the paralyzed side, as the muscles of the tongue are pushing, not pulling, muscles. The paralysis, being all on the left side of the head, pointed to injury of the right side of the brain. We have no positive evidence here of fracture of the skull; but in some of the worst cases of cerebral injury, such as those which have been called "traumatic apoplexy," we have no fracture. This fact of the occurrence of the most severe brain injuries without fracture may be illustrated by a familiar fact, often noticed before the days of the hunting-case watch, that, when the watch sustained a fall, if the crystal broke the mainspring escaped, whereas if the crystal was not broken then the mainspring broke. With the hunting-case, the cover will fly open, and both crystal and spring may be unharmed. The force must be expended somewhere, if not on the outside, then on the inside. Fracture of the base usually results from force applied to the vault—fracture by counter-stroke. The skull is oval, and when force is applied to one surface, having a certain amount of elasticity, the oval changes its shape; the short axis lengthens and the long axis is shortened, and then the skull is thrown into a state of oscillation or vibration; and according to physical laws, a force being applied to the summit, the base of the oval is drawn in by all the force being here concentrated. If the bone is but ordinarily strong and the force sufficiently great, the skull is fractured, and the brain itself may escape with comparatively little injury. If the bone is strong and escapes fracture, then the vibrations are transmitted to the brain itself, and thus we may have a most severe injury produced.

In this case we had evidence of deep-seated injury of the brain. We may have facial paralysis from a blow on the side of the face, affecting the facial nerve

or portio dura, but here we had a combination of nerve lesions. The double vision was probably due to disturbance of the optic nerve or tract, and when, in addition to this, we had ptosis or paralysis of the levator palpebræ muscle, which is supplied by the oculomotor nerve, and facial paralysis besides, it is at least most probable that the lesion, involving three distinct nerves, was not of peripheral origin, but centric. Apart from the nervous disturbances, there was no evidence of fracture in this case.

If there is fracture of the middle fossa of the skull, we nearly always have hemorrhage from the ear; we may, of course, have such hemorrhage without a fracture, but where there is profuse hemorrhage continued for some time, and after it ceases, a watery flow, then fracture is very probable, though even then not certain. In almost all these cases the watery fluid is cerebro-spinal fluid. Cases also are on record where there have been fissures in the skull allowing the escape of this fluid. In fractures of the anterior fossa, blood, and afterwards watery fluid, may escape through the nose. In fracture of the anterior fossa there is nasal hemorrhage, but, of course, the hemorrhage may occur from other causes. Again, in fractures of the anterior part of the skull, we have another characteristic symptom, namely, intra-orbital ecchymosis or subconjunctival hemorrhage. This is to be distinguished from the ecchymosis caused by a blow—the "black eye"—by the fact that it does not come on immediately, and is not preceded by palpebral ecchymosis. We may have ecchymosis which, beginning in the eyelid, goes to the conjunctiva in a few days. But if we have subconjunctival hemorrhage coming on two or three days after an injury of the head, and before there has been hemorrhage into the eyelid, the blood has probably come through a fissure of the orbit from the brain. It may, however, be due to a rupture of a vessel in the orbit itself, but then it usually comes on at an earlier period. We have here nothing of this kind, and we have no reason for thinking that there has been any fracture, though we have strong reasons for believing that there has been an injury of the brain itself.

We probably have here to deal with some slight laceration of the brain fibres, with a consequent production of lymph, which by pressure has for the time interfered with the functional activity of the affected nerves. The fact that the paralysis did not come on at first, is the reason for believing that it has been due to the pressure of lymph, and not to a rupture of nerve fibres, as in the latter case we should probably have had the symptoms coming on immediately. The ptosis and the facial paralysis did not come on for several days after the accident. The double vision which occurred immediately was probably due to some of the lesions which I have already spoken of as present in cases of cerebral concussion.

The paralysis of the facial muscles and of the levator palpebræ has gradually passed off, in consequence either of the lymph being absorbed or because the brain has become accustomed to the pressure. The hebetude and dulness from which the patient at first suffered have also passed off.

The treatment which has been adopted in both these cases, and which I commonly employ in cases of head-injury, has been the application of cold to the head, and the administration of calomel and Dover's powder. In the first case we treated the first stage of shock by the application of heat, by means of hot-water cans, to the cold extremities, and by the internal use of ammonium carbonate; five grains every hour. When reaction set in, cold was applied to the head. In these cases small doses of opium produce a calming and soothing effect, in addition to their physiological action

of producing anæmia of the brain; the use of opium has therefore a double advantage. The calomel is used for its "anticipatory antiplastic" effect. It has a very great influence over all inflammations of serous membranes. Desault recommended the use of large doses of antimony with the view of producing the same effect; he used enormous quantities of tartar-emetic in cases of head-injury, with the view of preventing inflammation. I have always hesitated to use antimony in this way, nor do I believe that it is called for in these cases, as we can accomplish every purpose by giving minute doses of calomel. In these cases, then, you may advantageously use cold to the head, with calomel and Dover's powder internally, and when there is much headache present, you can afford relief by giving bromide of potassium. Our second patient, in addition to these remedies, has lately been taking quinine to improve his general nutrition. As for food, you may use milk—as much as the patient can take. It does no harm even to give stimulants, if the general condition renders it necessary. The fact to be remembered is that you must maintain the nutrition of the brain, and often your attention or want of attention to this point will make the difference between reparative inflammation and suppurative inflammation of this organ. If your patients are starved in the way persons formerly were in these cases, you need not expect that they will get well. You must then, at the same time that you are giving calomel, keep up the general condition and nutrition of the brain—blowing hot and cold, as it were, together—and thus try to prevent the reparative from passing into the suppurative form of inflammation.

Our third patient is a man, who, last Saturday night, being seven days ago, fell from the Paoli bridge, sustaining, beside a fracture of the radius, an injury of the head. The external wound is a comparatively small affair, but, in addition to this, there is a deeper lesion which may possibly involve the skull itself. There were, when this patient came into the hospital, bruises of the face, with profuse hemorrhage from the nose. Dr. Martin succeeded in controlling the hemorrhage, which then came only from the right nostril, by plugging the anterior naris on that side. This answered the purpose for some time, but on Monday the hemorrhage recurred from both nostrils, when we had recourse to plugging both nares, both anteriorly and posteriorly.

The plugging of the posterior nares may be accomplished by the use of the double canula, but it can be more conveniently accomplished by means of Bellocq's sound, which is introduced through the anterior nares until it reaches back of the soft palate, when the end is made to protrude by means of a curved wire. The end is now threaded in the mouth, the cord carrying at its end a plug which is made to enter the posterior naris by the withdrawal of the sound; then the anterior naris can be plugged from in front. The plugs in the right naris, both anterior and posterior, have become loosened and have been removed; but in the left naris the posterior plug is still in position. We do not want to leave the plug too long, nor yet do we wish to remove it before it becomes loose, since its premature withdrawal might reëxcite the hemorrhage. The patient also presents some cerebral symptoms; he is quite dull and heavy, and has been at times delirious. He has lost much blood and is, in consequence, very anæmic; because of this we have adopted special measures for the keeping up of the heart's action. We are using tincture of digitalis as a cardiac tonic; opium to keep the patient quiet, and ergot to occasion contraction of the capillaries and thus prevent capillary hemorrhage. He gets all the nourishment he can take. The bleeding was so profuse that we feared that it might come

from a fracture of the skull at the base of the nose. In some cases the ethmoid bone is extensively fractured, and then there is great risk of meningitis following.

We are using here calomel and Dover's powder, and if there should appear any further symptoms of cerebral disturbance, we should use cold to the head. We did not use cold in the beginning, as the patient had lost so much blood that we wished to avoid anything that might chill him.

There is very little danger in leaving plugs in the nares even for a considerable time. Some surgeons have feared that to do so might expose to risk of blood-poisoning, but there is a comparatively slight risk of this. You must by all means control the hemorrhage, and leave the plugs in until they become loose of themselves. They may become very offensive both to the patient and to those around him; and they have the additional disadvantage that the secretions being swallowed may cause disorder of the digestive functions, but even this is better than a recurrence of the bleeding. On the whole, our patient is doing well, and there is no reason why he should not recover.

ORIGINAL ARTICLES.

IMPETIGO CONTAGIOSA: ITS INDIVIDUALITY AND NATURE.

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SINCE the first papers¹ on the subject of this disease, by the late Tilbury Fox, in which its clinical features were so well portrayed and its individuality so forcibly presented, numerous observations of other writers have been added, and the accumulated facts all go to prove the correctness of the views advanced by that distinguished observer.

As with most diseases, this affection presents slight differences as observed in different countries, although in the main and essential points coinciding. English observation,² following that of Fox, has corroborated the truth and accuracy of his descriptions.

With the Germans, as described by Kaposi,³ Simon,⁴ Geber,⁵ Unna,⁶ Riegel,⁷ and others, the character of the eruption is the same, but the prodromic constitutional disturbance which, according to Fox, ushers in the eruption is rarely marked, and frequently absent, and the eruption is mostly confined to the face and scalp, sometimes extending to

the hands and feet, but rarely to the trunk and limbs. In these cases, however, swelling of the submaxillary glands is occasionally noticed, a symptom, to which scarcely any reference is made by writers of other countries.

In the disease as seen in our country, as described by Taylor,¹ Piffard,² Foster,³ Van Harlingen,⁴ and others,⁵ the antecedent febrile condition is in most instances so slight as to escape observation; the distribution corresponds to that given by Fox, except that the eruption is usually less abundant.

French references to the disease are scant; not infrequently reference is made to contagious pemphigus, ecthyma, and herpes, which refer, in some instances, probably, to the disease under consideration.

The claims of the disease to individuality are generally recognized, although not universally so. The Germans are the main doubters. Kaposi,⁶ the present leader of the Vienna School of Dermatology, has in his late treatise almost completely ignored the disease, mentioning it only to state that the cases giving rise to this name belong most probably, either to the domain of eczema, tinea trichophytina, or pediculosis; this in spite of the fact that he had some years previously not only granted the disease a distinct existence, but also, on account of having discovered a fungus in some of the crusts, had designated it by the new name of "impetigo parasitaria." Geber⁷ and Lang⁸ are disposed to consider it an unusual form of tinea trichophytina. Unna⁹ considers it a distinct disease. Riegel¹⁰ looks upon it as a contagious eczema, and suggests that it should be so named.¹¹

Pediculi are, admittedly, capable of producing pustulation, but never the characteristic vesicles, vesico-pustules, and blebs of this disease; nor is it at all probable, even if so capable, that all the lesions would be so uniform, or that in several members of a family they would present the same characters. Then, again, itching is almost a constant sign of pediculosis, and is rarely present in contagious impetigo, nor would there be any probability of the disease being at all a definite one with such a cause acting.

¹ Taylor (R. W.): Four Cases of Impetigo Contagiosa; Amer. Journ. Syph. and Derm., Oct. 1871. Clinical Observation on Contagious Impetigo; Boston Med. and Surg. Journ., June 6, 1872.

² Piffard: Impetigo Contagiosa: its Parasitic Nature; New York Med. Journ., June, 1872. Impetigo Contagiosa: its Relation to Vaccinia; New York Med. Journ., July, 1872.

³ Foster: Herpes Contagiosus Varioliformis; Archiv. Derm., Jan. 1875.

⁴ Van Harlingen: Impetigo Contagiosa; Med. and Surg. Rep., Sept. 8, 1878.

⁵ Fox (G. H.): A Case of Impetigo Contagiosa; Transact. New York Derm. Assoc. Archiv. Dermatol., April, 1877. Stelwagon: Impetigo Contagiosa: Fourteen Cases; The Specialist and Intelligencer, Nov. 1880. Beach: An Epidemic of Impetigo Contagiosa; New York Med. Record, 1883, xxii. p. 63.

⁶ Kaposi: Pathologie und Therapie der Hautkrankheiten. Second edition. Vienna and Leipzig, 1883, p. 441.

⁷ Loc. cit.

⁸ Lang (E.): Ueber Impetigo Contagiosa und ihre Stellung zur Dermato-mycosis tonsurans; Wien. med. Presse, 51, 1877.

⁹ Loc. cit.

¹⁰ Loc. cit.

¹¹ Lewkowitsch: Ein Beitrag zur Streitfrage der Existenz der Impetigo Contagiosa oder Parasitaria; Jahrb. für Kindh., p. 303, 1877.

¹ Fox: On Impetigo Contagiosa or Porrigo; British Medical Journal, 1864, pp. 467, 495, 553, 607. On Contagious Impetigo; Journal of Cutaneous Medicine, October, 1869, p. 231.

² Wilson: Journ. of Cutaneous Med., April, 1868, p. 50. Anderson: Diseases of the Skin, London, 1872. Tuckey: Contagious Impetigo; Practitioner, Sept. 1876.

³ Kaposi: Ueber Impetigo (Faciei) Contagiosa und einen bei derselben gefundenen Pilz. Wien. med. Presse, June 4, 1871.

⁴ Simon (Oscar): Fälle von Impetigo Contagiosa; Berlin. klin. Wochenschr., Feb. 23, 1873.

⁵ Geber: Ueber das Wesen der Impetigo Contagiosa (Fox), oder Paristaria (Kaposi); Wien. med. Presse, 23 and 24, 1876.

⁶ Unna: Ueber die Impetigo Contagiosa (Fox), nebst Bemerkungen über pustulöse und bullöse Hautaffectionen; Vierteljahrsschr. f. Dermatol., Wien, 1880, vii.

⁷ Riegel: Ueber Impetigo Contagiosa; Berlin. klin. Wochenschr., 1881, xiii.

Cases in which the eruption is in places confluent, and confined to the face and scalp, do resemble eczema somewhat, but the character of the primary lesions, their maturation, and indisposition to rupture, furnish sufficient grounds against this disease, without taking into consideration the contagious properties of the affection.

Those cases in which the vesico-pustules grow rapidly larger by extension of the peripheral wall give rise to the view that the disease may be an unusual form of *tinea circinata*. In these cases, Kaposi agrees with the views of Geber and Lang, who, as stated, consider the disease, in all its phases, of the nature of ringworm. Geber, in substantiation of his view, has reported one case in which characteristic patches of ringworm were present, the other lesions being typical of contagious impetigo; the fungus of ringworm was found, and the apparent identity of the two diseases announced. Lang¹ followed with a report of a similar case.

Any impartial observer reading the reports of these cases would have no doubt that instead of one process, there were two distinct diseases present. In a case in which the lesions were all typical of impetigo contagiosa, Geber found a fungus in one of the crusts resembling that found previously by Kaposi, but considered its presence accidental, to which view Kaposi subsequently yielded. It would be extraordinary to have so copious an eruption as is common in this disease from the fungus of *tinea trichophytina*, in which all the lesions would present characters so uniformly unusual, so extraordinary, I think, as to be impossible. Moreover, with so much eruption, if the disease were ringworm, there should be no difficulty in detecting the fungus; on the contrary, attempts to do this are always negative, except in cases in which, as in those of Geber and Lang, ringworm clearly co-exists, and naturally such patches may furnish the characteristic fungus. Admitting the difficulty at times of discovering the fungus in cases of ringworm of the body, and that the same would be true in unusual forms of it, there never is any difficulty in detecting fungous elements in the hairs when the scalp is affected, and this should be true, as Simon suggested, of patches of contagious impetigo in the scalp, were it a form of ringworm; microscopical examinations are, however, without result. Again, patients with impetigo contagiosa, if inoculated with the fungus of ringworm, should, I think, show resulting patches at least somewhat similar to the impetiginous eruption present, as a tendency to an unusual form of an eruption must be dependent upon the state of the skin or condition of the patient or surroundings, rather than upon any condition of the fungus itself. On the contrary, in cases of this disease in which I made the experiment, and in a few of which, as a result, ringworm was produced, the patches were typical, and showed no tendency whatever to the production of a lesion or patch similar to the coexisting eruption of contagious impetigo. In fact, there is neither clinical

nor microscopical proof that the disease is in any way related to ringworm.

American observers recognize the individuality of the disease with, to my knowledge, but one exception. Dr. Hyde,¹ in his treatise recently published, regards the disease as a variety or modification of simple impetigo—an impetigo following in the wake of a contagious disease. After describing the clinical history of the disease, and mentioning the fact that it frequently follows a contagious disease, Dr. Hyde says:

"The natural conclusion seems to me irresistible. Impetigo contagiosa is merely an impetigo which must first, at least, occur in the skin of a patient who has lately suffered from a contagious disease (varicella, variola, vaccinia). The living matter of the pus shares, to a feeble extent, in the activity with which the protoplasmic elements of such a skin were recently endowed. Thus originated, and in this feeble degree inoculable, such a living pus could readily excite the protoplasm of another part of the body or of another individual not convalescent from a contagious disease to a similar activity. Especially should this be demonstrable in the tender and susceptible skin of a child. As regards any differences which have been named above between the features of impetigo in its non-contagious and contagious forms, these are all non-essential, and due to the difference in the activity of the process."

Is the fact, as Dr. Hyde states, that the disease follows a contagious disease correct and sustained by clinical experience? I think not. Among all the reports of cases, in a few instances only did the disease follow varicella, and I can recall no case in which it followed variola, and in only a small proportion of cases did it seem to have any relationship to vaccination. In the eighty eight cases under my care during the past three years and a half, in one only did it follow varicella, in no instance had variola preceded, and in but six did it follow vaccination, and in these a period varying from one month to a year had intervened.

Postponing a further discussion of its possible relationship to vaccination till the subject of the nature of the disease is taken up, and passing to a consideration of other questions raised by Dr. Hyde's theory, the next point suggested is: Can a pustular disease be so modified by a preëxisting contagious disease, which had some time previously occurred, as to present an entirely different clinical picture? I know of no example or proof in substantiation of this. Admitting, however, that such can take place, can such a modification be possessed of such characters as to propagate itself in its own modified form? If so, then there is a new disease, entirely differing from the original disease, and totally distinct and independent. I do not believe, however, that such can take place; clinical observation is against it, and it lacks both positive and negative demonstration. The clinical features of the two diseases are markedly different, and cannot be easily confounded.

If the disease is not a variety or modification of another disease, and its clinical characteristics are so

¹ Loc. cit.

¹ Hyde: Diseases of the Skin, p. 186.

distinct and different from other diseases, the conclusion must be reached that the process is an independent one, and the individuality of the disease must be admitted. This granted, the nature of the disease demands consideration.

In regard to this point but few observers are in accord; some viewing it as a parasitic disease, others opposed to this, and others again holding aloof and advancing no opinion. The eruption has distinct contagious properties; is inoculable, as well as auto-inoculable; to these facts most observers agree. This being the case, this contagion must be derived from a constitutional or local source. The question of the local source of the contagion, or the parasitic view, will be first considered.

Some points regarding the parasitic theory have been unavoidably touched upon in discussing the individuality of the disease, and a certain amount of repetition may be necessary.

Several observers, most notably Kaposi¹ and Piffard,² have attributed the disease to the presence of a fungus which they have discovered in some of the crusts. This view is, however, materially weakened at the start by the fact that in almost all instances the discovered fungus has been different from that discovered by others. Almost every observer has, in fact, been able to demonstrate the presence of a fungus in a few crusts, but many look upon it as accidental, a view which Kaposi, one of the first supporters of the fungus theory, subsequently adopted. Others, again, most conspicuously Unna, consider the disease, in all probability, due to a fungus, but admit that as yet the fungus has not been found. No one has been able to demonstrate a fungus in the contents of the lesions.

It is not at all surprising that fungi have been detected in some of the crusts, for it is well known that fungi may float about in the air, and may lodge upon anything exposed. Take the crusts of any disease, the non-parasitic nature of which is unquestioned, and the same result will be obtained. This I have done with the crusts of eczema and dermatitis, and in them I have occasionally found not only the fungus described by Kaposi and Geber, and that found by Piffard, but also fungous elements of other characters. In all, five hundred examinations were made. The same was done with the crusts of impetigo contagiosa, and with about the same results. In numerous examinations of the contents of the lesions, I was never able to detect the slightest trace of a fungus, agreeing in this with the experience of all other observers. The fungi so far discovered in the crusts are, therefore, in all probability, adventitious, and in no way related to the disease. I may here say that not infrequently I have found micrococci in the contents of the *maturing* lesions, suggested by Crocker³ as a possible cause of the disease, but these are not peculiar to this disease, and may be frequently found in pustules of other diseases.

In a disease with so copious an eruption as commonly observed in this affection, if it were in any way dependent upon a parasitic cause, there should be no difficulty in detecting the same fungus in several of the crusts, even if not in the contents of the lesion. A failure to do this is in itself against the supposition of a parasitic disease.

The aggregate results, therefore, of microscopic investigations of the disease, have been so far negative, and must be accepted as proving more or less conclusively its non-parasitic nature.

This conclusion is supported by the clinical features of the disease: the prodromic febrile disturbance, the character and progress of the eruption, the definite course, are all in opposition to the parasitic view.

The disease occurs mainly among the poorer classes: this has been looked upon as favoring its parasitic nature. It should have, however, but little weight, as all contagious diseases, it matters not what the contagium may be, are always more common among the poor and neglected.

Another view of the eruption, which is nowhere clearly advanced, although its suggestion is occasionally implied, is that which would consider the disease a general systemic one, and the cutaneous phenomena as its manifestations, resembling in this respect the other eruptive diseases—varicella, variola, and the like, and that the eruption is prolonged by auto inoculation. This view is one, I think, which the writings of Fox in a measure suggest, although it is not distinctly so stated. This observer, in discussing the prodromic constitutional symptoms of the disease, says:¹

"There is clearly an affection of the system at large before the occurrence of any eruption;" and then again: "There was in many instances smart pyrexia accompanying the development of the disease;" and further: "I noticed in the quasi-epidemic of 1870 how completely the definite course of the eruption was marked by the successive cropping-up of fresh places, in part induced by the inoculation from scratching, and also by the fact that the patient scratched open the pustules before the scabbing had taken place, and so prevented their drying and healing up;" and further says: "The natural course of the disease is a short and definite one."

There are several reasons in support of this view. The fact that there is a slight fever before the appearance of an eruption is a good basis for this supposition. That this is frequently absent, or at least so slight as to escape notice, may appear at first thought to antagonize such a view. This, however, occurs frequently in varicella, and occasionally in varioloid, as well as in other such diseases, the constitutional nature of which is unquestioned. Certain it is that the aggregate experience of observers points to the frequent occurrence of prodromic symptoms, or a period of invasion, especially when the disease occurs in young children. Like varicella and others of the eruptive diseases, it

¹ Loc. cit.

² Loc. cit.

³ Crocker: On the Contagium of Impetigo Contagiosa; *Lancet*, 1881, 1, p. 82.

¹ Fox (Tilbury): *Skin Diseases*. Second American Edition, 1879, p. 224.

is a disease of childhood, and is frequently epidemic, and at times apparently infectious. The disease does not often recur. There is occasional swelling of the submaxillary glands. The disease is markedly contagious, and, moreover, frequently several children are simultaneously attacked, indicating a specific poison.

All these facts are in favor of the view under consideration.

Ordinarily the disease runs a short and definite course, and the clinical picture of it when this is the case is very characteristic of an acute contagious eruptive disease of a systemic nature, due to a specific poison.

It is only in those cases in which the eruption continues to appear for several weeks or even months that a doubt is thrown upon this view of the disease, and a suspicion aroused that the lesions are due to some external agent. The eruption is, however, auto-inoculable, and this may explain the occasional chronic character of the disease, although, to say the least, the explanation is unsatisfactory.

So far as my observations have gone, I incline to this view of the disease, strengthened as it has been by a careful study of the literature of the subject. This theory will explain the typical cases, and I am willing to accept for the present that, in some instances, the cutaneous manifestations are prolonged by the persistence of the auto-inoculable properties of the lesions after the active and essential disease has run its course: in this manner, new patches may be produced for several weeks, this inherent element of the vesico-pustules becoming gradually weaker, and finally its power to reproduce disappearing.

That this is, however, a correct explanation of the disease I am far from convinced; but if we dismiss the possibility of a parasitic cause (and the collective investigations of the disease certainly demand this), then I can think of no other alternative which will explain the disease as well as this, and which has so many grounds in its support.

As already remarked, the greater number of writers hold aloof, and advance no opinion as to the nature of the disease. Several have suggested that in some way it was related to vaccination, as has already been intimated. Fox himself stated that some cases followed this operation. Piffard¹ and Duhring² have seen such instances; Hyde also saw such relationship in some cases. Others have failed to recognize any connection whatever, and in many writings on the disease the question is not discussed, and the inference is that in their cases such relationship was not noticed. As before remarked, in my cases a dependence upon vaccination could not be demonstrated.

In addition to clinical observation, Piffard based this view upon the discovery of a fungus in the vaccine crust resembling that found in the crust of contagious impetigo. The fungus was found in a number of vaccine crusts, but only in several im-

petigo crusts, a fact suspicious in itself. No fungus could be seen in fresh vaccine lymph. It is probable that if impetigo crusts were exposed to the air as long as vaccine crusts usually are, an examination would disclose the fungus in a greater proportion. Dr. Piffard himself did not, however, consider this proof of a relationship conclusive.

There are several grounds against the supposition that the disease follows vaccination. The disease is commonly observed among the poor, and rarely among the well-to-do. Vaccination, on the other hand, is almost universally practised among the better classes, whereas among the poor it is frequently neglected. This being the case, contagious impetigo should not be so rare among the well-to-do, and so common among the poor; in other words, where vaccination is freely practised, scarcely any cases are observed. Again, the disease should be more prevalent during smallpox epidemics, as then vaccination is more common. A study of the literature of the disease fails to show that this was the case; on the contrary, the reports really prove the reverse.

Another point against it is that not infrequently the disease breaks out simultaneously in several children of a family, only one or two of whom had ever been vaccinated.

With these grounds, and the additional fact that in the mass of cases reported no connection with vaccination was observed, the conclusion is inevitable that no such relationship exists.

In summing up my investigations of the disease, as above detailed, the following results are adduced:

1. It is a separate and distinct disease.
2. It is not parasitic.
3. It is not related in any way to vaccination.
4. It is an acute, contagious, systemic disease (exanthema), with cutaneous manifestations having a definite course, and, in all probability, due to a specific poison.

The first three deductions are, I think, well founded; the fourth is merely suggestive.

TWO CASES OF PARACENTESIS OF THE THORAX;

WITH THE UNUSUAL COEXISTENCE OF PNEUMOTHORAX, NOT TRAUMATIC IN ONE, AND PLEURITIC FRICTION SOUNDS FOLLOWING THE OPERATION IN BOTH CASES; WITH REMARKS AND DEDUCTIONS.

BY F. PEYRE PORCHER M.D.,

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(Read before the Medical Society of South Carolina, October, 1883.)

I HAVE recently had occasion in my service at the City Hospital to withdraw by the aspirator three pints of sero-albuminous fluid, of a pale straw-color from Mrs. M., a white woman, æt. 61, who was supposed to be suffering from phthisis. I found partial dullness at the base of the left thorax anteriorly and posteriorly, with absolute dullness in the right cavity up to the nipple.

¹ Loc. cit.

² Duhring: Diseases of the Skin. Third edition. 1882, p. 298.

The needle of the aspirator was inserted July 6th, at a point three and a half inches below the lower border of the scapula, when a portion of the fluid was withdrawn. Three days subsequently the needle was made to enter over a dull area between the sixth and seventh ribs a little anterior to the middle axillary space, when the removal of an additional quantity of fluid rewarded our efforts.

The patient, before the operation, had been compelled to maintain the upright position day and night on account of dyspnoea, which symptom was entirely relieved, and though there is still some dulness at the base of the right lung posteriorly, she is perfectly comfortable. Two weeks after the operation pleuritic friction sounds could be distinctly heard—consequent upon the contact of the pulmonary and costal pleural surfaces. At the present writing, August 21st, there is not the slightest disturbance as regards her chest. She only suffers from a singular tendency to cutaneous hemorrhage from a scratch or a mosquito-bite, or any other irritant acting upon the surface of the body. At an examination made October 1st, some friction sounds could still be heard, but no fluid existed. The accentuation of the pulmonary second sound was still marked.

It has been my invariable rule in operations for paracentesis of the chest-walls, including two for removal of fluid from the pericardium and one from the lungs, to use the hypodermic syringe with a fine needle as a suction instrument to test for the presence of fluid. After the point of the needle has been inserted beneath the skin, the piston is drawn back and a vacuum is created, so that immediately as any fluid is reached it is drawn up into the body of the instrument and its existence made known. Then recourse is had to the aspirator. I make such innocuous searches for fluid in almost every region of the body, deadening the sensation of pain by a spray of ether, or the direct application for a half-minute of a smooth bit of ice. Dr. Douglass Purcell (*London Medical Record*) recommends that the ice should be previously dipped in salt.

To show, furthermore, the necessity for searching for the existence of pleuritic effusion in persons who are unconscious of its existence, I report the fact that I have to-day used the hypodermic needle in a man who has been up for three weeks, and obtained some fluid by a puncture in the right middle axillary space, and judging from the extent of the dulness, I confidently expect at my next visit to withdraw two or more quarts for the relief of a state of inactivity and "a heavy feeling about his chest"—the only complaints he makes.

CASE II.—Mr. B., white, æt. 44, has been sick five months, during three of which an inmate of the hospital, suffering from Bright's disease with anasarca. I learn since that his illness began with a severe cold, accompanied by pain in the side; and I may remark here that many diseases of the chest ascribed to tuberculosis will be found upon closer examination to have been caused by previous attacks of pneumonia or pleuro-pneumonia; and the prognosis is then always more favorable. Upon a

chemical and microscopical examination of his urine, a very moderate amount of albumen—one-fortieth of a test-tube—was found, and many broken tube casts. There was marked intensification of the second sound at the base of the heart. After careful additional examination (July 16, 1883), I discovered that he also had a large quantity of fluid in the thoracic cavity. My colleague, Prof. M. Michel, Drs. M. Simons, Thomas Legare, my son, W. P. Porcher and the house physicians being present, the needle of the aspirator was entered at the back of the left lung, three inches below the scapula, and one pint of fluid obtained. Two measured pints were then drawn from the base of the right lung, the needle being inserted at a point between the ninth and tenth ribs, intermediate between the lower axillary space and the lower border of the scapula. The pale, serous fluid obtained from each side was slightly different in color.

Relief from pain and dyspnoea and diminished swelling of the feet followed the removal of so large a quantity of fluid, which had, of course, interfered materially with the important organs in the thorax. The tendency of pleuritic effusions is to invade the pericardial sac, and, if allowed to remain, they impede absorption throughout the body.

Dr. F. P. Henry, in presenting a case of Bright's disease to the Pathological Society of Philadelphia (*THE MEDICAL NEWS*, August 2, 1883), stated that the cause of death was cedema of the lungs, which is a common event in this disease; and he urges the important point that the pleural cavity may serve as an outlet for effusions, "which, but for its presence, would infiltrate the lung parenchyma, . . . and that cedema of the lung may perhaps be averted by the timely performance of paracentesis."

He urges that any cause which interfered with a proper expansion of the thorax would lead to congestion of the pulmonary capillaries, thereby favoring pleural effusion.

A few days subsequently, with the especial object of ascertaining whether friction sounds would not be discovered as a result of the operation, as in the preceding case, I found exceedingly well-marked rubbing sounds at points in the left chest between the heart and the middle axillary space. These sounds, listened to by several friends, persisted for several days: they were so exaggerated as almost to be confounded with the rustle of the clothing, and more distinct than any I have ever heard.

This case presented an additional point of interest, which has surpassed everything in my previous experience in hospital or private practice. This was the escape of an enormous amount of air from both sides of the thorax, which passed into the reservoir of the aspirator with the fluid. The presence of a certain amount of crepitation had been noted previous to the operation, but there had been no very marked resonance upon percussion. When we remember that there was never any traumatism, no previous injury to the ribs or chest, and that the possibility of the existence of idiopathic pneumothorax has been widely denied, this case gives a striking refutation to such denial. I have also been enabled in this instance, as well as

in several other persons examined for the purpose, to confirm an observation recently reported in THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES—i. e., the coexistence of intensification of the second sound at the base of the heart consequent upon the presence of peritoneal fluid, gall-stones, concretions, ovarian cysts, or whatever else produces obstruction in the liver and interferes with the due discharge of blood through the ascending vena cava. As one of the writers expresses it: "There is an ischæmia of the portal and hepatic, and a hyperæmia of the pulmonary system."

Such obstructions (and this man's abdomen was distended by fluid) influence the cardio-pulmonary circulation; the right side of the heart is engorged; owing to the compression, the diaphragm becomes fixed, the lungs cannot expand freely and express their contained blood, hence the flow of blood through the pulmonary artery is impeded. There is revealed at the tricuspid orifice a prolonged first sound and a regurgitant murmur, and the second sound is accentuated over the pulmonary orifice, owing to increased arterial tension in the pulmonary circulation. It is purely mechanical, and occurs even in pregnancy. See papers by Dr. Passerini, in *Gazz. degli Ospitali*, January 3, 1883; also Barié, in *Revue de Médecine*, February, 1883; in *English Practitioner*, August, 1883. The condition of the right cavities of the heart, as seen at the autopsy which we will presently relate, serves to confirm the explanation.

According to some authorities, including Hoppe, intensification of the pulmonary artery second sound at the base was often otherwise explained, indicating, for example, a diseased condition of the left ventricle, markedly of the mitral valve. Dr. E. Hyla Greves states, in the *Liverpool Medico-Chirurg. Journal* for July, 1883, "that the pulmonary second sound is accentuated in cases of chlorosis also, and indicates increased tension in the pulmonary artery." On the other hand, there can be a true cirrhosis of the liver of cardiac origin (M. Ch. Sabourin, 1883).

Mr. B. died August 18. The accumulation of fluid in the abdomen having largely increased, he was tapped, at my request, by the house physician, Dr. I. O. Cobb, two days before his death, and three gallons of serous fluid removed.

At the post-mortem examination, made by the house physician, two or three quarts of fluid were found remaining in the cavity of the thorax, and a small amount in the pericardial sac. There was great hypertrophy of the heart. The left ventricle was very much hypertrophied, the walls over an inch in thickness; the right ventricle was also hypertrophied. The right auricle was very much distended, the left normal. The aortic valve was normal, the mitral being slightly insufficient, with great development of the fleshy columns of the valves, as the specimen exhibits. The lungs were congested and condensed by the pressure of the circumambient fluid, adhesions and pleural bands existing. The fluid was becoming denser, approaching to an empyæmatic condition. The kidneys were somewhat enlarged, red, granular, and nodulated,

with the capsules adherent; on cutting into them, some of the pyramids were found to be destroyed. The liver was enlarged.

It is a regret that I did not use earlier and more frequent operations for the removal of the serous fluid in both chest and abdomen. I think that morbid accumulations should be carefully searched for and more frequently and earlier withdrawn.

Dr. Bouveret (*Lyon Medical*, 1883) has noticed an ascites among alcoholists curable by tapping. He brings these cases in relation "with the ascites which Murchison has reported as accompanying hepatic congestion, and Semmola has found to exist in certain cases of interstitial hepatitis, and, finally, with the ascites found in chronic peritonitis by Leudet and Lancereux." Differential diagnosis, he adds, is impossible, and only the progress of the affection can throw light on the nature of the ascites.

I regard paracentesis as often only palliative of pain and disease, yet that it is essential as such. I have had one case of perfect recovery from ascites where the patient was also put on sulphate of copper as a tonic; and in a second case, the man from whose abdomen five measured gallons were drawn was at his work five months afterwards.

In the case of a man with Bright's disease, of cardiac origin, seen with Dr. R. A. Brodie, of this city, and tapped six times, with the removal of more than two gallons in several instances, he has recently walked more than two miles, after having been confined to his room for months, and often compelled to sit up in his chair night and day.

In conclusion, I will relate two unique cases, indicating the necessity for paracentesis, but in neither of which, unfortunately, was the operation performed.

In an autopsy—made within the past few days—of a man with serous fluid in the lungs accompanying great enlargement of the liver, insufficiency of the mitral valves having been diagnosed, a fibrous mass the size of a bullet was found imbedded in one of the fleshy columns of the mitral. A singular incident occurred in connection with this case: Whilst the muscles of the thorax were being divided, but before the cavity of the chest was opened, a large quantity of fluid was seen to flow in a continuous stream from the mouth of the corpse. This phenomenon was never before witnessed by any one present, including Prof. Michel, who assisted. It could only be accounted for by an accidental communication being forced between the superabundant fluid in the chest into the trachea, though no opening could be discovered.

In another case, which I had occasion to publish during the past year in connection with reports of several cases of paracentesis thoracis, a gardener, who had been in the habit of lying out in the open air, and who was admitted into the hospital suffering from great oppression, pleuritic effusion being diagnosed, paracentesis was proposed, but the patient refused. Spontaneous rupture through the bronchial tubes from gangrene of the lungs occurred during the night, and the man was suffocated in ten minutes by the deluge of fluid from the pleural cavity.

A CASE OF POISONING BY TURPETH MINERAL; DEATH.

BY A. MCPHEDRAN, M.B.,
OF TORONTO, CANADA.

I AM not aware that any instance of poisoning by the yellow sulphate of mercury has been published, or that such a result has ever before occurred from its administration, and deem it, therefore, a duty to report the following case. A medicine that has been so unreservedly commended by so high an authority as Dr. Fordyce Barker, of New York, must be used by many practitioners in both the United States and Canada. Should it occasionally miscarry with even less disastrous results than in the case given below, it is very desirable that such a fact be known to the profession generally, that due caution may be exercised in its administration.

I was consulted in August of last year by a woman for her child, aged five months, on account of a croupy cough which had begun two days before, and was growing worse. There were symptoms occasionally of slight spasm of the larynx, and the mother was apprehensive of "croup." The cough was due to a slight catarrh of the larynx and trachea, with pretty free secretion. The child was healthy and well nourished, though small. Fearing an attack of dyspnoea during the night from spasm of the larynx, it was thought advisable to be prepared to give an emetic, and two powders, three grains each, of turpeth mineral, were ordered, with directions that one should be given as soon as an attack of spasm threatened. The second powder was directed to be given in fifteen minutes if the first failed to produce vomiting. No doubt, however, was entertained of the prompt action of the first powder.

During the night, the mother thought it necessary to make the child vomit, and gave one powder, a little of which was not swallowed, but returned mixed with saliva, so that probably about two grains were taken. A few minutes afterwards, the child seemed greatly distressed, and made fruitless efforts to vomit. The second powder was given in a quarter of an hour, but only increased the suffering without producing emesis.

I was immediately sent for, and, on my arrival, found the child in great agony. The tongue was slightly whitened, and the throat filled with mucus. Shortly afterwards the bowels began to move. The first motion was of normal consistence and dark-yellow color; the subsequent ones consisted of white, coagulated mucus and watery fluid, in which at first could frequently be seen light, yellow particles, which probably consisted of turpeth mineral. The evacuations were very frequent, and soon became almost continuous. The child could swallow nothing, so that little could be done to give relief. An enema was given, but it returned immediately. After about two hours, collapse began to set in. The pain came in paroxysms, during which there were efforts to vomit. The collapse gradually increased, and death took place in eleven hours, with signs of slight convulsions.

These symptoms are identical with those due to acute poisoning by the perchloride of mercury. The lemon-yellow color of the powder precludes the possibility of its being other than the yellow sulphate. A short time previously I prescribed this emetic for diphtheritic laryngitis in a child under two years old. The prescription was filled from the same bottle of the medicine as was used to fill the order in the above case. In that case, four and a half grain doses were given, and each dose caused prompt, easy emesis without any perceptible depression following its action. Full doses were ordered in each case, in the expectation that the most prompt action would be obtained without any increase in the depressing effects. I was led to give the preference to turpeth mineral for the infant from observing how perfectly it met all the requirements of an emetic in the case of the child. My friend, Dr. Cameron, of this city, has since had similar experience with this medicine. He ordered it for a child, and the first dose not producing emesis, a second was given. This also failed to accomplish the object aimed at, but a severe diarrhoea was produced, which terminated fatally.

MEDICAL PROGRESS.

NEPHRECTOMY.—On November 13th DR. RICHARD DAVY removed, by post-peritoneal incision, a large fibro-cystic kidney from a man aged 53. The albuminous urine has ceased since the day of operation, and the patient is doing well. On November 14th Mr. Knowsley Thornton performed nephrectomy by abdominal section on a young woman at the Samaritan Free Hospital, a tuberculous kidney being removed. The abdominal incision was made external to the rectus muscle, as Langenbuch recommends, and, after a principle introduced by the operator, the cut surface of the distal part of the ureter was fixed outside the abdominal wound. The patient is progressing very favorably. This is the sixth case of nephrectomy performed by the same operator; all the patients have recovered, and in every case the strictest antiseptic precautions were employed. A very complete account of the history of surgical operations upon the kidney will be found in the contributions of Mr. Clement Lucas and Dr. W. Walter to the Surgical Section at the recent annual meeting of the Association, together with the subsequent discussion, published in the *Journal*, September 29, 1883.—*British Med. Journ.*, Nov. 24, 1883.

EROSION OF THE INTERNAL CAROTID FROM CARIES OF THE PETROUS BONE.—DR. HESSLER reports a case in which sudden death from profuse hemorrhage from the mouth, nose, and ears, was occasioned by caries of the tympanic cavity causing erosion of the internal carotid. Reference to the literature of the subject shows that other similar cases have been reported. The accident seems to be especially likely to occur in these cases on account of the close relation of the internal carotid to the petrous portion of the temporal bone. The hemorrhage is generally sudden and fatal, and without prodromal symptoms. It may be brought on by a paroxysm of cough.

The prognosis is, of course, very unfavorable, the patient bleeding to death before assistance can be rendered. The only treatment is compression and ligature of the common carotid. Even then hemorrhage may occur from a return current through the anastomosis with the vertebral and the cerebral anastomoses.—*Deutsche Med. Wochenschr.*, August 22, 1883.

TREATMENT OF FISTULÆ OF STENO'S DUCT.—DR. EDOUARD MARTIN has recently published a clinical study of this affection, in which he draws the following conclusions:

1. From an etiological point of view, fistulæ of Steno's duct may be classified almost equally as traumatic fistulæ, and pathological fistulæ following abscess and inflammation.

2. Their treatment varies a great deal according to the indications; it is therefore a grave error to choose any one procedure to the exclusion of all others for a distinct application in these cases.

When the anterior extremity of the canal is permeable, cauterization, aided in some cases by dilatation, may effect a cure. When the anterior extremity is closed, it is necessary either to produce glandular atrophy by compression, or by evacuating the saliva externally, a procedure not without inconveniences, though it has given good results in the hands of Louis, Borel, and Julliard, or else to make an artificial duct. For this purpose Martin believes that simple puncture with a large trocar, followed by the introduction of a large drain left *in situ* for a few days, is sufficient in the majority of cases to insure the permeability of the artificial duct. Should this show a tendency to close up, a canulated sound may be passed, or the duct may be dilated by laminaria. Deguise's method of double puncture, with Béclard's, Gosselin's, Trélot's, or Richelot's modifications, should be reserved for exceptional cases.—*Revue de Thérap.*, Nov. 1, 1883.

TREATMENT OF EPITHELIAL TUMORS BY ARSENICAL PASTE.—M. GARÈS (*Thèse de Paris*, 1883) recommends the method employed by Laboulbène. The paste is made as follows: R.—Arsenious acid, 1 part; sulphate of mercury, 3 parts; calcined sponge, 6 parts; add water sufficient to make a soft paste. After a little ammonia has been applied to the surface of the tumor, a small quantity of the paste is applied; the quantity to be applied varies according to the dimensions of the tumor. The paste is applied by means of a piece of tinder, and secured. There is generally some pain, but not sufficient to cause serious inconvenience until the second day. After a time varying from four to six days, the tumor becomes detached and falls off, leaving a wound which soon begins to cicatrize. The chief advantage of this paste lies in its elective properties, pursuing the ramifications of an epithelioma in a remarkable manner.—*Revue de Thérap.*, Dec. 1, 1883.

ACTINOMYCOSIS HOMINIS.—MIDDELDORFF reports a case of actinomycosis hominis seen at the Freiburg Surgical Clinic. The patient was thirty-five years old; had had symptoms of peritonitis in July, 1882. Then two pelvic abscesses formed, which, when opened, discharged characteristic actinomycoses. In the course of time a gluteal abscess formed, a communication existed between the abscess-opening and the intestine, and later a communication between the intestine and urinary passages. The treatment was symptomatic and the patient recovered. The reported cases of actinomycosis amount to twenty-three.—*Centralbl. f. Chir.*, Nov. 3, 1883.

CHYLURIA, WITH CASEIN IN THE URINE.—DR. A. LOISON reports the case of a woman affected with chyluria. The amount of fat varied between grammes 3.25 to 4.11 per litre of urine. The density of the urine was normal. Microscopic examination showed the presence of numerous fatty globules, granular masses of precipitated urocasein, and fibrinous clots as large as the head of a pin, and containing blood-globules.

The caseous material which M. Loison called urocasein was precipitable by acetic acid, the precipitant

being soluble in ammonia and in the alkaline carbonates, phosphates, borates, and bicarbonates. When dissolved in bicarbonate of soda this material was precipitated by sulphate of magnesia. The alkaline solutions are precipitable by acetic and lactic acids, and by tartaric acid (an excess of this last material redissolves the precipitate).

In an alkaline solution it is precipitated by alcohol, heat redissolving the precipitate. Elementary analysis shows that this casein is analogous to milk casein.—*Ann. des Mal. des Organes Genito-Urinaires*, November, 1883.

PROGNOSIS OF RESECTION OF THE VAGUS.—A. VOGEL reports three cases of resection of the vagus.

The first case was one of extirpation of carcinomatous glands in the neck, during which one and one-fifth inch of the left internal jugular and two inches of the left vagus were resected. It was rather remarkable that the left recurrent was not affected until nine days after the operation. Up to this time the voice was loud and clear; then total paralysis of the left vocal chord came on. Vogel thinks that there must have been an anastomotic connection between the right vagus and the left superior laryngeal.

The second case was one of partial extirpation of the larynx, a portion of internal jugular, three and one-fifth inches of the common carotid, and large pieces of the vagus, sympathetic, and hypoglossal nerves. Death occurred ten hours after the operation, from loss of blood.

The third case was one of lympho-sarcoma of the neck; extirpation with resection of the right vagus, a part of the cervical plexus, section of the sympathetic, ligation of the internal jugular and subclavian veins, and vertebral and subclavian arteries. Death occurred in four days from loss of blood. As far as paralytic accidents are concerned, the operation does not seem to be contra-indicated.—*Centralbl. f. Chir.*, November 24, 1883.

THE EFFECT OF THE METALLIC CHLORIDES ON MICROBES.—M. CH. RICHEL has recently made some experimental studies on this subject.

He used, as a fermentable liquid, sea-water to which a small quantity of pepsin had been added. This liquid is, in a few hours, filled with bacteria. In comparing the metals which, in the state of chlorides, prevented the development of bacteria for forty-eight hours, M. Richet discovered that twenty times as much of the chloride was needed, as was necessary to endanger the lives of fishes.

Mercury has the most powerful action; after this are zinc, cadmium, and copper. Ammonium and potassium, which are energetic animal poisons, have no effect on plants. It is probable that this difference depends on the nervous system, upon which the salts of ammonium and potash are toxic. There are then universal poisons, of which mercury and zinc are the types acting on the entire organism; and poisons of the nervous system.—*Revue Scientifique*, Nov. 10, 1883.

SCARLATINOID DISEASE.—In his annual report on the condition of the Combined Gloucestershire District for the year 1882, DR. FRANCIS BOND, the Medical Officer of Health for the district, explains at some length his reasons for classing the mortality from scarlatina, diphtheria, and croup under the head of scarlatinoïd disease. It is not, he observes, that typical scarlatina and typical diphtheria are diseases which can be confounded with one another by any person who has once seen examples of them, but that there is so much practical confusion in the intermediate links by which these separable types are connected with one another, and

in the tendency both of the profession and the public to call cases of severe sore-throat "diphtheria," though the scarlatinoid nature of such cases is often not difficult to recognize when searched for, that he sees no alternative but to group them under one head, believing them all to have a more or less intimate family relationship to one another in origin, pathology, and sanitary importance. In illustration, Dr. Bond quotes the case of an outbreak which took place at the close of last year, in the parish of Westbury-on-Severn, where upwards of forty children were suddenly smitten by an attack, the precise nature of which it was by no means easy to identify. The only invariable symptom was a more or less congested condition of the throat and tonsils, accompanied in several cases with localized ulcerations, and very rarely with anything like true diphtheritic exudation, though with occasional croupy tone of voice. Had he seen the latter samples of the affection alone, Dr. Bond would have classified them as croup; had he seen those only in which there was a tendency to exudative deposit on the tongue and fauces, he would have been inclined to admit the diagnosis of a medical friend who saw them with him, and who pronounced them diphtheritic. But the absence in the majority of the cases of the characteristic symptoms of specific diphtheria, the presence in the district of unquestionable scarlatina, the want of any conditions to explain an outbreak of specific diphtheria, and the existence about the same time of similar ambiguous cases of the same kind in other parts of the district, all pointed to the conclusion that this was an aberrant and ill-developed form of scarlatina, modified to some extent by obscure local or personal influences. Enlarged experience tends, Dr. Bond says, to confirm in his mind the belief that, though scarlatina generally originates from direct personal infection, and though typical diphtheria often has a purely local origin, these diseases are due to an infection which in all cases attacks the throat, propagates itself mainly from the throat, and which may, in passing from one person to another, undergo such modifications as will give rise in one case to a characteristic outbreak of scarlatina, in another to an equally characteristic attack of diphtheria, and in a third to a mongrel type of affection which it is difficult to refer dogmatically to either of these diseases, or identify by any other name than bad sore-throat, and which is, in fact, a connecting link between them. Practically, the outcome of this view is, he thinks, to observe with the greatest suspicion any case of sore-throat, more especially in young persons, and to assume that it is scarlatinoid in nature unless good reason can be shown for regarding it otherwise.—*Med. Times and Gazette*, Nov. 17, 1883.

LUPUS OF THE LARYNX.—A paper on this subject, by MM. CHIARI and RIEHL, appears in the *Vierteljahrs. f. Dermatol. u. Syphilis*, 1882, page 663, and *Centralbl. f. klin. Med.*, No. 41, 1883. A review of the present literature of the subject goes to prove that the absolute diagnosis of the condition is only to be made when some affection of the skin accompanies it, and when the possibility of syphilis, tubercle, and carcinoma can be excluded with certainty. Of sixty-eight cases (twenty-six males and forty-two females, all suffering from lupus of the skin or of various mucous membranes) investigated by the authors, only six could be definitely diagnosed as lupus of the larynx. The following appears to be the most usual mode of onset. Small excrescences of the size of hemp-seeds, some isolated and others in groups, appear upon the epiglottis, and, later, upon the ary-epiglottic folds. Similar outgrowths may form on the vocal cords, or may even extend into the trachea. These nodules are seated upon a slightly hyperæmic mucous membrane, and

tend to increase both in prominence and in superficial area. They may end in resolution, a slight scabbing taking place, followed by cicatrization, with shallow depressions of the mucous membrane; or ulceration may occur, of very long duration, often accompanied by glandular swellings in the neck, and leading to deep cicatrices, in which fresh nodules are very prone to recur. Unlike lupus of the nose, there appears to be but little tendency for laryngeal lupus to attack the cartilaginous structures. The symptoms, of necessity, depend upon the part of the larynx invaded. Women would appear to be more liable to the affection than men. Scrofulous or tuberculous diatheses do not seem to have any influence either upon the origin or the course of the disease. From tubercular disease of the larynx it differs in its proneness to attack the epiglottis, and thence to spread downwards, and in the scarring about the healed nodules or ulcers. From carcinoma it is distinguished by the absence of the cachexia and by the age of the patient, and further, by its tendency to disintegration rather than proliferation. The differential diagnosis from the syphilitic affections is less easy. The character of the ulcers themselves forms the most marked point of distinction; the sharply defined rounded edge, and the surface covered with yellowish secretion peculiar to the syphilitic ulcers, will often serve to determine their nature. In some cases, however, the course of the disease and its amenability to treatment are the only means of coming to a correct diagnosis. The prognosis must invariably be very guarded. Complications such as perichondritis or even stenosis of the trachea have been observed, although only in a very small proportion of the cases. Treatment must be general, especially by cod-liver oil, and local, by caustic remedies such as iodoform or nitrate of silver.—*Medical Times and Gazette*, November 10, 1883.

TURPENTINE IN DIPHTHERIA.—The antiseptic treatment of diphtheria by turpentine has recently been introduced in Germany by BOSSE, of Dornan. It is given in the same manner as in cases of phosphorus poisoning, that is to say, as pure turpentine, highly rectified, in doses of a soup-spoonful twice a day to adults, a dessertspoonful to children of more than five years of age, and a teaspoonful to young infants. Milk and wine are given abundantly at the same time. The administration of it causes a sensation of burning in the stomach, epigastric pressure, vomiting, and the passage of stools strongly impregnated with turpentine odor.

This use of turpentine was suggested by the experiments of Koch, which showed that it had an action on the problematic bacilli of diphtheria. But the treatment itself is much more than problematic.—*L'Union Méd.*, November 20, 1883.

BISMUTH AS AN ANTISEPTIC.—KOCHER has recently published a further observation in favor of the antiseptic use of bismuth.

The patient was a small boy, who was brought to the hospital at Berne, early in October, on account of a wound from a firearm. The ball had penetrated the abdominal cavity, perforating the cartilages of the seventh and eighth ribs and the wall of the stomach, which was distended with food, the latter being extravasated into the peritoneal cavity. Laparotomy was performed, and the wound brought together by a catgut suture, being completed by a fine silk suture. The peritoneal cavity was disinfected with a solution of subnitrate of bismuth, two per cent. Six days afterwards, the sutures were removed, and twenty days later the patient was well.—*L'Union Méd.*, November 20, 1883.

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SATURDAY, DECEMBER 22, 1883.

THE DWIGHT LIFE INSURANCE CASE.

FOR several weeks, public attention has been attracted in an unusual degree, to the Dwight Life Insurance Case, proceeding at Norwich, New York. The prominence of the citizen, whose death involved a large sum of money, the mystery surrounding the dying man's last moments, the supposition on the one hand of fraud, and the fatality of the events as believed on the other, have combined to awaken the keenest interest on the part of the medical profession and the public. The secular press having supplied the material to satisfy the curiosity of the public, as medical journalists, we have now to place before our readers the medical aspects of this remarkable medico-legal investigation.

The late Col. Dwight, of Binghamton, New York, a few months before his death, secured policies on his life, in various companies, aggregating upwards of three hundred thousand dollars. Having recently been discharged from his debts under the existing Bankrupt Act, Dwight was unprovided with the means to pay the premiums on his policies, and hence made an arrangement for quarterly instalments. He had paid one quarter only when he died. His death was peculiarly timely. The proceedings in bankruptcy had just been concluded, and in a few days the second quarterly instalment of the annual premium would come due. Various circumstances connected with Dwight's illness and death were peculiar, the will, which disposed of the insurance money, is a remarkable document, and the numerous beneficiaries under the will appear to have been selected for the testator's bounty with other than merely friendly interest: hence it can

hardly be surprising that the insurance companies suspected fraud, and resisted payment of the insurance money. The executors of Dwight brought suit to compel payment, and hence the legal contest which has just terminated by the defeat of the insurance companies.

There are several medical and medico-legal questions connected with the case which cannot fail to interest our readers. Dwight was, in some respects, a remarkable man; his malady was obscure; the cause of death was involved in much doubt, notwithstanding an autopsy was held. The trial developed many singular opinions on the part of witnesses to fact, and also on the part of the experts. To present an intelligible view of the case, it is necessary to clear the ground by some preliminary statements.

Dwight was forty-one years of age, six feet two inches in height, and weighed, when in health, two hundred and twenty pounds; he had, moreover, immense strength, activity, and endurance, and he possessed many of the moral qualities of "Col. Sellers." After very harassing pecuniary troubles, ended in the bankrupt court, he was greatly fatigued and much exposed on a hunting expedition which immediately followed. He fell sick, and the symptoms, as given by Dr. Burr, his physician, were "sleeplessness, entire want of appetite, loathing of food, vomiting frequently of contents of stomach—mostly drinks that he had taken." He then improved, and on November 1st was reported as "dressed and sitting up." The next day, on rising to open the door of his room, he "suddenly became faint, and fell back on his bed unconscious. The symptoms were those of a congestive chill. Stimulants and other restoratives were employed, and in the course of an hour he was able to speak." As there is no evidence of fever present at any time, this theory of a pernicious intermittent seems strangely at variance with this fact, and no less irreconcilable with subsequent developments.

On the 9th of November, or one week after this, Dr. Burr reported the onset of the "expected chill," but he says, "we prepared for it yesterday, and late in the evening administered Magendie's solution of morphia, both internally and hypodermically." "The doses of morphia were renewed at two o'clock A. M.," as some pain had occurred. The second paroxysm of the supposed pernicious intermittent, was not attended with more characteristic symptoms than had been witnessed in the first. Some depression of the powers of life came on after the "preparations" to prevent it had been made, but the symptom of chief importance, for the relief of which morphia in repeated doses had been given, was severe pain in the hypochondriac regions.

After this Dwight again improved, and on the 16th of November, the day of his death, he was "very comfortable," according to Dr. Burr, and expressed himself in the evening of the same day as feeling "unusually comfortable." During this day large doses of Magendie's solution of morphine were administered—one of these doses being one drachm of the solution, or two grains—and at 9 P. M., an amount, which was not definitely remembered, was given subcutaneously. Not less than three grains, certainly, had been taken during the day and evening, some portion of it hypodermatically. It is stated that morphine had been given freely during his illness to procure sleep—the more freely, since Dwight, whilst not an opium *habitué*, was extremely insusceptible to its action. On those days when the "congestive chills" were expected, and to procure sleep on the night previous to the first fainting fit, he received large doses of morphine.

Notwithstanding the statement which we find in the report of Dr. Delafield, made to the Insurance Company, that "no poisonous symptoms were produced" by the large doses of morphine, it is certain that the pulmonary and circulatory systems were characteristically affected. All the world knows that morphine in full doses, especially when given subcutaneously, is a vascular sedative. It is this power which renders it so valuable an agent in acute serous inflammations. The sedative action is made up of two effects; lessened activity of the cardiac-motor ganglia; contraction of the peripheral arterioles. Fluid extract of gelsemium had also been given during the last two weeks of Dwight's life—a practice which necessarily increased the cardiac depression. There were conditions developed at the autopsy which rendered this treatment peculiarly hazardous.

Dr. Delafield, who made the first post-mortem examination, found changes in the intestinal glandular apparatus and in the spleen, indicative of the prodromal stage of typhoid, and the heart was small and its muscular tissue "somewhat degenerated." The post-mortem also disclosed chronic pachymeningitis, and a small hemorrhagic extravasation in connection therewith. The opinion of Dr. Delafield as to the mode of dying seems to us wholly sound. The attacks supposed to be congestive chills, he says, "were due to sudden feebleness of the heart; in the second attack, the heart ceased to act." In this result the agency of the morphine is obvious. Although Dwight's brain was rather insusceptible to the narcotic impression, the heart was in a condition to be depressed by the enormous doses required to force sleep. In the words of Dr. Burr, "he suddenly without any premonition sank away and died."

The question of suicide entered largely into the

theory of the mode of dying adopted by the experts and the counsel for the insurance companies. Before we consider the means by which Dwight was supposed to effect his purpose, we must dispose of the influence which certain moral questions and personal characteristics had in determining his actions. The reason he had for taking so great an amount of insurance, may have been, to secure large sums of money to his family and friends, by a supreme fraud. When we reflect on the enormity of the crime, on his hopeful disposition and self-confidence, especially on the large enterprises which he had in view, it seems more rational to interpret his conduct by the light of other motives. From this point of view the large insurance was intended to bridge over the period between the present impecuniosity, and that successful enterprise with "millions it it," which, as the testimony shows, he had entered upon. The disclosures of the post-mortem render it probable that he was in the incipency of one of those forms of mental derangement characterized by expansive ideas. Pachymeningitis accompanied by a hemorrhagic extravasation is so common a condition in some forms of insanity that we can hardly doubt its agency in this case. A large life insurance was a natural conception of a mind now about to enter on gigantic schemes of money-getting.

The most important and, indeed, only real evidence of suicide was afforded by a peculiar indentation and a corresponding line of discoloration around the neck, extending from both sides upwards and backwards, as if made by a cord. There was no proof of hanging. On the contrary, the testimony of several witnesses to the final cessation of Dwight's breathing is conclusive against the theory of suicide by strangulation. What, then, produced this appearance of the neck? The explanation offered by the undertaker is, probably, the correct one. After death, the flexing of the neck caused by the support under the head, and suggillation, the tissues being fixed in this position by a packing of ice, produced the appearance of which so much use was made by the experts of the insurance companies. Dr. Swinburne, of Albany, was the original author of this strangulation theory, supported it by his testimony at the coroner's inquest, and, undoubtedly, impressed his views successfully on the insurance companies' experts. There was no injury to the hyoid bone, to the larynx and trachea, but some evidences of death by asphyxia were certainly present. Strangely enough, no attention was paid to this condition as a result of morphine narcosis. We have already alluded to the effect of this narcotic, when the condition of the heart was under consideration; but the post-mortem appearances indicate that respiratory failure

probably preceded by a few seconds the arrest of the heart, for this organ was nearly emptied of blood, and the lungs were congested and inflated.

It is the misfortune of our present system of jurisprudence, as regards expert testimony, that the medical men summoned on one side assume the position of partisans, and testify only to facts that are regarded as favorable to the side on which they are retained. The theory of strangulation suited the interests of the companies seeking to establish fraud, and it would have been fatal to their cause to admit the agency of the repeated doses of morphine in inducing death. That respiration was deeply embarrassed is shown by the testimony of the person who sat up with Dwight on the night of his death. Ten minutes before breathing finally ceased, this person sitting in the room adjoining, heard Dwight "gasping for breath."

Reviewing now the case in its entirety, we believe that the decision at which the jury arrived is supported by the medical evidence, and that the accusation of fraud is unjustified. If the lesions demonstrated by Dr. Delafield at the first autopsy seem inadequate to explain the fatal termination, the enormous doses of morphine administered on the last day of Dwight's life, by way of "preparation" for the expected "congestive chill," are quite sufficient. He had suffered from a pachymeningitis, and there had occurred a recent extravasation at the site of the old exudation; the intestinal glands manifested the appearances of the prodromal stage of typhoid; the spleen was enlarged and softened, and the forces of the body were reduced by several weeks of illness: under such circumstances, is it surprising that, having received three grains of morphine within a few hours, death should have occurred with all the phenomena of respiratory paralysis? The insurance companies should profit by such an experience, and eminent experts should view all sides of similar cases, and become judicially minded if they would retain any of the influence belonging to the scientific character in presence of court and juries.

THE CONVERSION OF TUBERCLE INTO AN INERT FOREIGN BODY.

IN an elaborate memoir just concluded, which has appeared in the *Revue de Médecine* (Nos. 9 and 10, 1883), MM. PARROT and MARTIN have studied the action of various destructive agents on the tubercle parasite. The problem which they set themselves to solve consisted in the discovery of some agent which will convert tubercle into an inert, and therefore harmless, foreign body. We can hardly experience a feeling of surprise and disappointment that the problem still remains insoluble. The progress of pathological discovery only post-

pones to a still more remote future a therapeutical remedy, and he must be unquenchably sanguine who can hope from our existing resources to find the agent which can safely effect the destruction of the tubercle parasite *in situ*.

If MM. Parrot and Martin have not discovered a cure, they have, at least, so far narrowed the field of inquiry as to demonstrate the inutility of some supposed remedies, and to indicate the work to be accomplished by the remedy of the future. Their research has also tended to establish the specificity of tubercle by showing its power of resistance to the various destructive influences. So little impressionable is the tubercle parasite that no agent now at our command will act destructively on it that does not, at the same time, affect the living tissues injuriously. The agents employed by them were salicylic acid, sulphate of quinine, corrosive sublimate, carbolic acid, creasote, bromine water, and peroxide of hydrogen. In the quantity suitable for administration, none of these exercised any influence on tuberculous virus. The only agent capable of effectively destroying it is heat of 212° F.

From this point of view, tuberculosis is the result of pullulation of a living organism. It does not live necessarily on the surface, and may exist for a long time wholly deprived of oxygen. MM. Parrot and Martin found, indeed, that some tubercle matter, immersed in almond oil, and kept from all possibility of the access of air, preserved its activity for several months. After a time, indeed, its infective property is lessened, but it is found that by repeated inoculations its activity is restored. Also, when immersed in alcohol for several days, the infective property is enfeebled, but by successive inoculations in animals, its normal power is regained.

These facts indicate how difficult is the attempt to procure a remedy which shall accomplish the destruction of tubercle infection. The system of attenuation of virus found by Pasteur to render some kinds finally sterile cannot be applied to the tubercle parasite. Antiseptics, as far as known to us, are powerless in any degree of strength within the limits of safety. The body is a culture ground in which the parasite finds the material of its development, and its pullulation causes the appearances to which we apply the term tuberculosis. Thus under our eyes proceed the ravages of a parasite which we are unable, in the present state of our knowledge, to destroy or render inert.

BISMUTH AS AN ASEPTIC DRESSING.

IN a paper, read at the Twelfth Congress of the German Surgical Association, RIEDEL, of Aix-la-Chapelle, stated that his experience with the dress-

ing of wounds with subnitrate of bismuth supported that of Kocher, who first called attention to it. He thought that the aseptic property of the remedy was due to the incessant disengagement of minute quantities of nitric acid, through which it acted as a mild caustic upon the tissues. He had, however, found it powerless in abscesses and in erysipelas, and, in consequence of its producing adhesions, he advised that it should not be used in operations upon the chest and abdomen.

In the discussion which followed, Kocher stated that bismuth was not a germicide, but that, by forming an albuminate with the tissues, it converted the latter into a soil which was unsuitable for the development of minute organisms. Von Langenbeck, of Wiesbaden, and Hahn, of Berlin, were warmly in favor of the dressing. Like all other agents, however, the use of bismuth is now and then followed by accidents. Kocher had known enteritis, nephritis, and stomatitis to be set up, and Israel, of Berlin, narrated a case of extirpation of carcinomatous axillary glands, in which an acute gangrenous stomatitis developed, and small nodosities remained in the vicinity of the cicatrix, which were due to deposits of the salt.

From these observations it appears that bismuth does not sustain the hopes which were anticipated when it was first introduced. Arsenic, with which it is largely contaminated, may possibly account for the aseptic properties which have been attributed to it.

MICRO-ORGANISMS IN NORMAL FECES.

AN important series of observations has recently been undertaken by student of medicine BERTHOLD BIENSTOCK in the Clinical Laboratory of the Royal Medical Clinic at Breslau, and reported in the *Deutsch. med. Wochenschrift*, Nov. 21, 1883.

It will be remembered that in Cohn's classification there are four principal groups of bacteria, or cleft-fungi: 1. Micrococci or spherical bacteria. 2. Micro-bacteria or short-rod bacteria. 3. Desmobacteria or filamentous bacteria. 4. Spiro-bacteria or screw bacteria, one of the genera of which is the *spirochaeta obermeyer* or the spirillum of relapsing fever.

Now, of these groups, Mr. Bienstock has found constantly present in normal feces, a bacillus or long-rod bacterium, a genus of the desmo-bacteria. To this same genus belong the bacillus of anthrax, the bacillus tuberculosis, and others. The genus bacillus, according to Koch, is the only one capable of resisting the solvent action of the gastric juice. All the remaining genera are destroyed by gastric juice in from twenty to thirty minutes.

No less than five different varieties of bacilli were found by Bienstock in feces, distinguishable from

each other partly by their mode of growth and culture, and partly by their properties.

It is impossible for us to follow Bienstock in his description of these varieties, of which one, found capable of breaking up albuminous substances, was conspicuously absent from the intestinal contents of suckling infants, whose only food was milk; while the same stools carefully collected were capable of developing the purest cultures of a second bacillus, which was found catalytic of carbohydrates. But the conclusion of the investigator that each fermentative process in the act of digestion has its own excitor in the shape of a bacterium, just as anthrax, glands, and tuberculosis possess their specific fungi, adds a result to the investigation of micro-organisms which, if confirmed, seems likely to lead to important practical results. Shall we live to see the day when a bacterium may be prescribed for one variety of indigestion, or for the solution of a certain kind of food, and another for the digestion of an aliment which would otherwise resist conversion into absorbable peptones or creamy chyle?

In connection with Koch's recent researches upon cholera in Egypt, during which he has noted a bacillus in the intestinal walls, these discoveries are also of importance.

THE INDEX MEDICUS.

THE publisher of *The Index Medicus* again places before the profession a statement of the status of this periodical, from which we learn that the mere annual cost of production is not less than \$5000, and that the maximum returns from subscriptions at \$6 per annum have not exceeded \$3600. It is therefore evident that to maintain this publication, which has now really become indispensable to all who are engaged in medical research, it is necessary either to have a largely increased subscription list, or the same list with an increased subscription price.

To the credit of the profession of this country and its future scientific work, this publication should not be allowed to stop. The burden of supporting it would not be felt by individuals if every medical society would take a copy at \$10 per annum, or if the wealthier societies would subscribe \$50 apiece as a guarantee fund, as has been done by two of the Philadelphia societies. The question of what is to be done to support this invaluable publication must be decided at once, and we hope that every physician interested in the advancement of his profession—and who is not?—will endeavor to authorize a subscription by his medical society at its next meeting, and in default of that, if possible, forward his own subscription to Mr. F. Leyboldt, 31 Park Row, New York. It would be a misfortune for the publication of *The Index Medicus* to be allowed to cease.

REVIEWS.

THE PATHOLOGY AND TREATMENT OF VENEREAL DISEASES. By FREEMAN J. BUMSTEAD, M.D., LL.D., etc., and ROBERT W. TAYLOR, A.M., M.D., etc. Fifth edition, revised and rewritten, with many additions by Dr. Taylor. Illustrated. 8vo, pp. 906. Philadelphia: Henry C. Lea's Son & Co., 1883.

THIS admirable book, which has been long enough before the medical public to need no special recommendation, is undoubtedly the best book on the subject that has appeared on this side the Atlantic, and one of the best that has appeared anywhere. As years have rolled by, it has reached successive editions, constantly assimilating the conclusions of scientific investigators all over the world, and never falling behind the advance guard of its own department of medicine. This last edition keeps up the reputation which its predecessors acquired. It comes revised, added to, and improved. The characteristic features of the original are not changed, but there has been a development like that which is looked for in sound organisms, and which speaks well for the organism and well for its surroundings. The one is shown to be healthy, the other propitious.

It is not possible, of course, nor would it be worth while, to attempt to make a complete review of a book so large, which is already so well known. But of a few matters here discussed, it may be well to say a little. In the first place, it is interesting to find that the authors speak with no uncertain sound in regard to the dual and distinct nature of the chancroidal and syphilitic poisons. Prolonged experience has only confirmed the views that they have before published. They still sanction the old notion that a tree is fairly to be judged by its fruits, and that as no one has ever been shown to have acquired syphilis from one who had nothing but a chancroid, therefore, it is reasonable to assume that the chancroid must belong to another category from the chancre—the initial lesion of syphilis. They point out the danger of judging venereal sores by their appearances alone, however useful and reliable these may at times be.

In the introduction we find the same reference that was made in the last edition to the investigations of Prof. Jones, who in 1878 announced the discovery of evidences of the existence of syphilis among the aborigines of America, as shown by the finding of bones in a state of syphilitic disorganization in ancient burial places in certain Southern States. This the authors seem inclined to accept, though they do not do so entirely. So far as we are aware, these claims of Dr. Jones have not had the attention which they deserve. They are of enough consequence to the cause of science that they should be either established or disproved.

Passing from the general to the special, we note a few points in regard to the treatment of the subject of gonorrhœa. The first of these is that the strong views of Fournier, in regard to the preponderance of the subjective element in the acquirement of gonorrhœa, are endorsed by implication. This suggests a query which could be best answered by those who have large practices in this specialty, namely, whether or not the majority of cases of gonorrhœa are found in those who, on account of youth or inexperience, or intoxication, are most impetuous and ardent in their sexual acts? It would seem that this would have some influence in deciding whether Fournier is right or wrong in this matter. We observe, again, what is always to be commended, that a proper use of the word "incubation" is

made, and the reader who may need it is warned that he must not understand by this term a period of inactivity, or latency, but one in which the effects of inoculation are not yet manifest. Ricord used to say: "The period of incubation is only a period of inobservation."

Considerable space is devoted in this book to the endoscope—more perhaps than it would be worth, if it were not for the fact that it might in skilful hands be made to contribute much more than it does to clearing up the pathology of the urethra. It is, however, an instrument which but few practitioners will ever use. Those who wish to use it should not fail to examine the excellent papers of Grünfeld, to which reference is here made.

The chapter on stricture of the urethra would detain us too long were we to stop at it; but we may note, in passing, the unwillingness to accept the dictum of Dr. Otis in regard to the relative dimensions of the body of the penis and the urethral canal. An unwillingness which we think is shared by most of those who have investigated the matter for themselves. Not that there is nothing in what Otis has claimed, but that the rule he laid down is not as universal as he supposed.

Sexual hypochondriasis is treated of admirably, though briefly; and wise and honorable advice is given as to its treatment. There is no attempt made, in this connection, to make capital out of men's fears, or to be entertaining at the expense of true delicacy. The words of Sir James Paget are quoted more than once, and the spirit of his writings on this same subject is imitated.

In the chapter which treats of the chancroid there is a condemnation of the practice of touching suspicious looking sores on the genitals with "*lapis infernalis*," which one might suppose was not needed in these days of modern enlightenment, were it not that one is constantly finding that men considered to be enlightened still do this very thing. The comment of the book on this is: "I feel tempted to apply to this indiscriminate and senseless mode of practice the adjective which, in Latin, is given to the '*lapis*' employed."

In the chapter on the nature of syphilis, there is a somewhat indignant denial of the recently repeated claim of Dr. Otis, that Bumstead and Taylor have adopted his peculiar views as to the nature of the syphilitic virus, and the process of its absorption and distribution through the system.

In another place, we find an excellent and useful chapter on certain cutaneous affections of the genitals, which are sometimes thought to be of venereal origin. Some of them—scabies and phtheiriasis, for example—are, in fact, of venereal origin occasionally; but the error which the authors point out of considering them always so, and of supposing that others, such as *tinea versicolor*, are manifestations of syphilis, is made often enough to call for this notice in a systematic work on the venereal diseases proper.

The authors discuss in detail the still mooted question whether or not a father can transmit syphilis, by inheritance, to his offspring. To this question they give an answer in the affirmative. On the other hand, they deny the possibility of the communication of syphilis through the utero-placental circulation. In regard to the second of these propositions, we think the arguments fair and conclusive. In regard to the first, we think there might have been more space given to argument without disadvantage. The whole subject of hereditary syphilis is involved in a certain degree of darkness even yet, and we doubt whether it will be cleared up until the terms employed in speaking of it have a universal and inflexible meaning. Then there is still the question whether it is syphilis itself, or a derivative, which is inherited.

In speaking of the treatment of syphilis, we find

the authors saying: "The therapeutic effect of iodine and its compounds upon syphilitic symptoms is in direct ratio to the duration of the disease." This is the usual view, and it is made stronger by the endorsement of this book; but it is a view which Sigmund abandoned before he died—so much so that he rather recommended the use of the iodine preparations for the early and more sthenic manifestations of syphilis, and the mercurials for the late and atonic manifestations. The authors speak in the highest terms of the administration of the erythroxylon coca as a tonic in the anæmic and cachectic stages of syphilis.

The concluding chapter contains a brief review of the question of syphilis in relation to marriage. This chapter might well have been made longer and more detailed, adopting more fully the form of the conclusions enunciated in Fournier's book on the same subject.

And now, as we think of this book as a whole, we revert to the expression with which our review begins, and repeat that it is in every way admirable, a credit to its authors and a credit to its publishers. Not the least instructive part of it is formed of the excellent woodcuts and colored plates which it contains. The paper and typography are of the best quality, and the binding is of the sort to send across the ocean, to show our British cousins how a good book should be bound.

ANATOMY, DESCRIPTIVE AND SURGICAL. By HENRY GRAY, F.R.S. With an Introduction on General Anatomy and Development. By T. HOLMES, M.A. (Cantab.). Edited by T. PICKERING PICK, Surgeon to St. George's Hospital. A new American from the tenth English edition. To which is added LANDMARKS, MEDICAL AND SURGICAL. By LUTHER HOLDEN, F.R.C.S. With additions by WILLIAM W. KEEN, M.D. Imp. 8vo. pp. 1023. Philadelphia: Henry C. Lea's Son & Co., 1883.

THAT Gray's *Anatomy* should have reached a tenth edition is a fact which speaks more loudly in praise of the practical utility of the work, both to the student and practitioner, than any mere words can do. In this new edition several of the sections, and notably that upon the peritoneum, have been enlarged and rewritten, new plates have been added, and the whole work has been brought to correspond with the most recent discoveries in anatomy and histology. Like the last two editions, this contains Holden's admirable "Landmarks, Medical and Surgical," and is a model of excellence in typography and engraving. Whilst its bulk renders it less useful in the dissecting-room than some of the smaller manuals, it is an encyclopædia of anatomy which every practitioner and student should have at hand for frequent consultation.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 27, 1883.

THE PRESIDENT, ROBERT F. WEIR, M.D., IN THE CHAIR.

DR. W. T. BULL read a paper entitled

REMARKS ON THE TREATMENT OF IRREDUCIBLE HERNIA BY OPERATION.

With the confidence inspired by success with antiseptic wound-treatment many surgeons have been encouraged to revive operations which had been dis-

carded, and to perform them with success. Among such none have attracted more notice than the operation for the radical cure of hernia. Various methods of operation involving the incision and subsequent suture of the structures concerned in ruptures have been adopted, and have yielded a varying degree of success. Leaving out of consideration minor modifications, these methods, which have been termed "Modern Radical Operations," may be reduced to three, viz. (Steele and Marcy): 1. Closure of the abdominal aperture of the hernia. 2. Closure of the neck of the sac by ligature or suture (Nussbaum). 3. A combination of the two procedures (Czerny).

Reports of operations and a number of papers have accompanied the experience of nine years, and we can form a good notion of the value of these operations by studying the elaborate statistics compiled by Dr. Leisrink, of Hamburg.¹ It will be sufficient for my purpose to call attention to the results of the operation for all cases not strangulated, *i. e.*, reducible and irreducible. Of these there have been operated on by one or the three methods, two hundred and two cases (one hundred and sixty-nine inguinal, twenty-five femoral, eight umbilical and ventral) with fifteen deaths, which gives a death-rate of only seven and two-fifths per cent. Nine deaths were due to septic poisoning, which represent a death-rate of four and three-tenths per cent. from this cause. The percentage of relapses, or cases in which no cure was obtained, is large. Details are not given in all cases, but of those reported there are found twenty and one-ninth per cent. of relapses. Thirty-two patients experienced relapse. A decided improvement was claimed in eighty per cent. Of the patients operated on for inguinal hernia, sixty per cent. were irreducible.

These figures show that the operation is attended with danger (seven per cent. mortality; four and one-third per cent. deaths from sepsis), and that it fails to effect a cure in twenty per cent. of the cases, while at the same time it holds out decided hope of improvement. It can, therefore, hardly be recommended to patients with hernia that can be controlled by truss. These persons are comparatively comfortable with a truss, and their condition far from dangerous, if they exercise proper care; and if any operation is attempted for their cure it should be one free from danger, such as the cure by Heaton's method of injection. The subjects of irreducible hernia, on the other hand, or at least a large majority of them, suffer frequent inconvenience, and are in constant danger of serious accidents. If the hernia contain intestine, they are generally unable to wear a truss, and have dragging pain on exertion, and frequent intestinal disturbances. They are liable to inflammation of the protruded viscera, or to the occurrence of strangulation of additional intestine. With an omental hernia some persons can wear a truss, especially if the pad be "concaved;" but they rarely do this with comfort. Without its support there is generally a feeling of weakness, inability to make more than moderate exertion without pain, and there is just the same liability or danger of the accidents of strangulation or inflammation.

These are the cases for which I believe the modern operations are desirable, and should be recommended when the simpler measures, such as rest in bed, restricted diet, repeated taxis and compression of the hernia, have failed. I have operated on all the cases which have come under my notice in the past three years, and with success. They are three in number.

¹ For the literature of the subject we should consult "Die Moderne Radical Operation des Unterleibsbrüche," by Leisrink, Hamburg: Leopold Voss, 1883.

1. Irreducible inguinal omental hernia. Excision of omentum, ligature, and excision of sac. Recovery.

A housekeeper, æt. 47, in good general health, was sent to me by Dr. Gibney for an irreducible inguinal hernia of the left inguinal region of six weeks' duration. The rupture had existed for ten years in a reducible condition, and had never given any annoyance till it became fixed, when the presence of a truss became unbearable, and she had pain in making moderate exertion. Several ineffectual attempts to reduce it without anæsthesia had been made. The swelling was over the site of the external abdominal ring on the left side, of the size of a small egg, doughy in feel, dull on percussion, tender on pressure, and contained no fluid on puncture. General health unaffected. After four days' rest in bed, with poultices applied at frequent intervals, the tenderness disappeared, and the swelling became softer. An attempt to reduce it under ether did not succeed, and an operation was recommended. On March 8, 1882, she entered the St. Luke's Hospital in the same condition as before. Under ether, and with the "spray," the sac was opened by an incision three inches in length, and found to contain a mass of omentum adherent to the sac at some places. At the neck of the sac it was as large as the little finger. It was drawn down, tied with a carbolized silk ligature, cut off, and the stump returned to the abdomen. The sac was then pulled down, its neck sewed up with fine catgut, and the rest excised; the wound united by a few catgut sutures and one silver wire with lead plates. Peat and carbolic acid dressing. Recovery was interrupted by a retention of secretion in the wound, which gave rise to slight fever, local tenderness, and vomiting on the third day. These symptoms disappeared promptly on relieving tension by opening the skin wound, and the entire wound healed by granulation under carbolic acid compresses, without further general or local disturbance, in four weeks. Six months afterwards, though the woman had discarded the truss given her on leaving the hospital, there was no sign of return and no unpleasant symptoms.

2. Irreducible inguinal omental hernia, extending into the labium majus. Excision of omentum, ligature and excision of sac. Recovery.

A widow, thirty years of age, and a seamstress by occupation, had been prevented from going out of the house, and at times even from moving about the room, for six months before she was sent to me from the Hospital for Ruptured and Crippled. The rupture appeared three years before in the left inguinal region, as large as a pea, and gradually increased to the size of a man's thumb, without ever being reduced. It gave her little trouble till about six months before I saw her. At this time she consulted a trussmaker, who made repeated efforts to fix a truss over the swelling, which he called a "gland." She could bear no pressure, and was unable to move about without pain. The swelling was three inches in length, extending from the external abdominal ring into the labium of the left side; irregular in its outline, soft to the feel, dull on percussion, irreducible, but giving an impulse in coughing at the upper part, and tender on moderate manipulation. General health good.

An operation was recommended, which was performed at St. Luke's Hospital, April 6, 1882. This operation was without spray, but with other antiseptic measures. The incision, three inches in length, exposed the peritoneal sac, which was opened and found to contain a tongue-like process of omentum, which was atrophied opposite the neck of the sac. This was tied with carbolized silk just about its thinnest part, cut off, and the stump returned to the abdomen. The hernial sac was then isolated, drawn down, its neck ligated with catgut, and the wound in the superjacent

tissues of the labium extended through the greater part of the labium majus. Six sutures were put in the upper part of wound, which was now four inches in length, the lower part being placed in apposition by small peat-bags (with iodoform). Large peat and iodoform dressing. The wound healed under two dressings, except a narrow granulating strip, which was cicatrized by the twelfth day. A truss with a light spring has been worn since, though there is no protrusion and the patient feels perfectly well.

3. Inflamed irreducible scrotal hernia (epiplocele). Drainage of sac. Recovery. Antiseptic treatment with spray.

A laborer, aged forty, came to the Chambers Street Hospital suffering from abdominal pain and vomiting, which had begun twenty-four hours before admission. He called attention to a large scrotal hernia of the right side, which had been irreducible for five years. How long it had existed he could not tell. The hernia was of the size of a cocoanut, and covered the upper third of the thigh. There was no tension and the finger could be passed into the abdominal aperture on its upper surface. The surface was smooth and tympanic over the lower part, was dull and doughy above. It was *not* decidedly tender. There was no impulse, and no impression could be made on it by taxis, but "gurgling" was produced. The man could not tell whether it was any larger than it had been for years past, but thought it got larger while he was at work, and before the vomiting began. He had slight abdominal pain, no tympanites, pulse 100, temperature 99° F., surface warm. He had been constipated for several days, but it was his habit, and he paid no attention to it. He stated, too, that he had had several attacks like this before, lasting two or three days. At the expiration of twelve hours morphine had been injected hypodermically three times, and ice applied to the tumor, and his condition was about the same. He had, however, vomited several times, but only the contents of the stomach.

Fearing the approach of strangulation I decided to attempt taxis under ether, and this failing, to operate. Taxis was tried for fifteen minutes without success. An incision three inches long was then made, and the tissues external to the sac divided. Taxis was again tried unsuccessfully. There seemed to be, however, no constriction about the neck of the sac, for the finger could be passed into the abdominal ring. The incision was extended, the sac opened and found to contain some turbid serum not offensive. A loop of large intestine slightly congested (it was barely changed in color) and distended with gas, and some small intestine not congested, forming a mass as large as a big fist, which was adherent to the bottom of the sac. It was held in a club-shaped mass by adhesion of the serous coats at its narrowest part. These bands and the adhesions to the sac were torn through, and about twenty carbolized silk ligatures applied to bleeding points. Both loops of intestine were then replaced. The abdominal ring admitted all the fingers, and the tissues overlying the sac in its vicinity were adherent and thickened. I, therefore, did not ligate the sac, for fear of injuring the spermatic cord, nor attempt its extirpation, in order not to extend the wound into the cellular tissue of the scrotum, but a counter-opening was made at the bottom of the sac and the wound sutured with silk, two drainage-tubes being inserted. Lister dressing. There was but slight shock from the operation. The wound healed entirely in four weeks with but moderate suppuration and slight fever (101.5° F.), but there was marked local peritonitis from the sixth to the tenth day. The bowels moved on the second and fourth days naturally, and there was no more vomiting. The man was discharged at the end of two months,

wearing a Heaton bandage, and has not been heard from since.

It will be noticed that I have followed only the one method, that of ligature and excision of the sac, and that is the only one, from what I have read of the operations of others, that I should be willing to recommend. The apertures cannot be first pared and then sewed up without increasing the risk of the operation, and from what we know of the liability to ventral hernia after wounds of the muscular parietes, there is no reason to believe that we can effectually close up an orifice surrounded by aponeurotic structures. I see no objection in the attempt to *diminish* the size of the orifice in this way, but I believe it of doubtful efficacy. I should think it wiser to adopt the *safest* operation for an irreducible hernia, which will make it reducible. A truss will then control it, and at a later date I should endeavor to diminish or to close the abdominal aperture by the injection method.

While the statistics quoted above give one a general idea of the risks of the operation, it will be apparent to all that these will vary with the conditions of each individual case. A small omental hernia in a woman is a safe thing to cut into, and a large intestinal hernia in a man a very dangerous one. In the same way, the ligature or the excision of the sac in one case may add a trifling nick, in another, a very great one; drawing down the peritoneal pouch, cutting it across, and causing it to unite, is the chief object to be accomplished. The remainder can be left (and drained) if its removal would leave a wound with many chances of septic infection; if not, it should be excised.

I have spoken of this operation only in irreducible hernia. It is proper, however, to state, before closing, my convictions as to its employment in strangulated cases. Leisrink's tables show the mortality after operations for strangulated hernia to be as follows: Of one hundred and eighty-six cases there were thirty-three deaths, giving a mortality of seventeen and two-thirds per cent. This compares most favorably with the rate of mortality in the days before antiseptic surgery was adopted; for the statistics of Luke, Malgaigne, Textor, South, and Gosselin show a death-rate varying from thirty-two per cent. to twenty per cent. As to the duration of the strangulation, the modern operations with antiseptic treatment show: twenty-three cases operated within fifty hours, two deaths, eight and two-thirds per cent. mortality; twenty-one cases operated after fifty hours, seven deaths, thirty-three and one-third per cent.; while with the older methods we find (Gosselin's statistics) twenty-five cases operated on within fifty hours, eight deaths, thirty-two per cent.; forty-one cases operated on after fifty hours, twenty-three deaths, sixty-five per cent.

This indeed convinces me that it is safe enough to add to the ordinary operation for strangulated hernia the measure I have referred to above. In other words, I would urge ligation or suture of the peritoneum at above the neck of the sac in every case of strangulated hernia, and excision of the sac besides, or its drainage, according to the circumstances of the case.

DR. CHARLES K. BRIDDON said that several years ago, during his term of service in the New York Dispensary, a colored child, eleven or twelve years of age, was brought there with an inguinal hernia on the right side as large as the child's head. It was irreducible, and had been so for a long time—perhaps had existed from birth. Only a portion of the contents of the sac could be reduced, and when so reduced there remained a band apparently passing from the upper portion of the sac to its fundus, which was supposed, both by himself and by Dr. Gurdon Buck, to be a long band of adhesion. Dr. Briddon operated, exposed the sac, and found that it was a hernia of the cæcum. There

was no meso-cæcum. The cæcum had simply slipped down behind the tunica vaginalis, and into that sac a portion of the small intestine had descended which could be reduced, but the irreducible portion was composed of cæcum. The portion which was thought to be a band of adhesion was the vermiform appendix. With considerable difficulty this was dissected free, and the entire contents of the hernial sac were reduced into the abdominal cavity, and a pad was applied. On the following day the hernia was in the same position as before the operation, having been rendered so by a fit of coughing. There was so much tenderness that he hesitated about reducing it and allowed it to remain. An abscess formed in the scrotum which gave discharge to a small quantity of the fluid portion of the fecal matter, but nothing solid; and it continued to discharge for years afterwards. The child was not at all benefited by the operation.

He had performed the operation referred to by Dr. Bull, that of tying the neck of the sac, and always resorted to it in strangulated hernia, but had his doubts as to whether it had been of service. In cases in which he had tied it high up, there had always been a necessity for the use of a truss afterward. He had also several times tried to approximate the columns forming the external ring, but without any benefit. On one occasion he excised the sac, but should never make that attempt again. It was a serious operation in a case of irreducible inguinal hernia, which was followed by a great amount of constitutional and local reaction. He thought the operation proposed by Dr. Bull, that of tying the sac and leaving the rest open to heal by granulation, was the best method to be adopted.

DR. A. C. POST presented a specimen of

UNUNITED FRACTURE OF LEFT THIGH, A HAND'S BREADTH ABOVE THE PATELLA; RESECTION; FRAGMENTS UNITED BY WIRE SUTURES.

On the 2d of July, 1883, I was on a visit to Charlotte, N. C., and saw I. M. Roark, a man fifty-one years of age, who had been injured by the explosion of a boiler on the 24th of June, 1882. He had a compound fracture of the left thigh, a hand's breadth above the patella; also a compound fracture of the left arm near its middle, and sundry contusions of different parts of his body. He had recovered from all his other injuries, but the fracture of the thigh remained ununited. His general health was good.

Condition, July 2, 1883: The limb is shortened about five centimetres. The upper fragment overlaps the lower on the outer side, and there is very free motion between the fragments.

Operation, July 2d: The patient being etherized, I made a free incision over the anterior and outer surface of the upper fragment, divided the periosteum, and worked carefully on the surface of the bone with a blunt instrument, and, after a long and persevering effort, succeeded in turning out the end of the bone and removing it with a saw. The portion removed was a little more than three centimetres in length. The lower fragment was very deep and difficult of access, but I succeeded at last in exposing it sufficiently to pass a chain saw around it, and to remove its extremity, which terminated in a rounded point. The portion removed was a little less than three centimetres in length. It required much effort to bring the sawn surfaces of the fragments into contact. I drilled two holes in each segment, and wired the segments together with annealed iron wire. A plaster-of-Paris splint, previously prepared, was applied to the dorsal and lateral surfaces of the limb. Carbolic compresses were placed between the lips of the wound, which were simply drawn towards each other, and

secured by a roller bandage. Over this a plaster-of-Paris bandage was applied.

3d.—The patient had been somewhat restless and uncomfortable during the night, but I found him in a very fair condition. Pulse 84, and of good volume; tongue clean. I did not disturb the wound.

4th.—Pulse 108; temperature $101\frac{3}{4}^{\circ}$; dressed the wound; made a large fenestra in the plaster bandage: removed the compresses; washed the wound with carbolic acid, one to forty; dusted the surface with iodoform; applied lint wet with the carbolized lotion to the surface of the wound, which was in a good condition; interposed, between the skin and the edges of the fenestra, lint moistened with carbolic oil, two scruples to one ounce.

5th.—Condition improved; pulse 96; temperature $100\frac{3}{4}^{\circ}$; wound in good condition; very little discharge; no odor; dressed as before.

6th.—Still improving; pulse 102; temperature 100° ; same dressing.

7th.—Pulse 95; temperature 100° ; all symptoms continue favorable.

8th.—Pulse 90; temperature 99.6° ; wound looks well; moderate suppuration; no odor; bowels constipated; ordered cathartic enema.

A few days after the last report I came on to the North, and I have not seen the patient since that time. Last month I received a letter from his physician, Dr. J. P. McComb, of Charlotte, giving me an account of the further progress of the case. This letter is dated October 16th. He writes, "The bone has united, and the wound is almost healed. He cannot bend his knee much, but it is improving. He is walking on crutches. The limb is shortened about three inches. There is a large callus all around the limb. He is very grateful for his prospects of a good leg."

ADENO-OSTEO-CHONDROMA OF THE SUBMAXILLARY GLAND.

DR. LANGE presented portions of a tumor removed from the neck of a man twenty-three years of age, which had developed within about five years to the size of a hen's egg. In histological composition it was adeno-chondroma with formation of true bone in small places. The operation was performed about three months ago, presented no difficulty, and will probably not be followed by recurrence of the disease, the tumor belonging to a rather benign species.

ACUTE PYÆMIA OF URETHRAL ORIGIN.

THE PRESIDENT presented kidneys and heart illustrating acute pyæmia of urethral origin. They were removed from the body of an apparently healthy man, twenty-five years of age, who had been subject to gleet discharges traceable to stricture. He had had instruments passed from time to time during the summer and in the autumn. Last Sunday his attending physician introduced a sound, No. 23 French, which passed into the bladder without violence, and with no more difficulty than had been produced on all the other occasions. A few drops of blood escaped. On Monday the man was seized with a severe chill. When Dr. Weir saw the patient he had a temperature of 105° F., and he supposed it to be due to malaria, as he knew that the patient had suffered formerly from such chills, which had invariably yielded to quinine. The temperature, however, remained high, and within forty-eight hours afterwards he began to develop joint pains and effusions. He complained of no distress in the bladder, but said that once or twice he had noticed that the urine was very slightly tinged with blood. The man became so delirious that he was removed to the hospital, where he died twenty-four hours after-

wards. Before death evidence of pericarditis and endocarditis was detected, and the opinion was formed that it was pyæmic. At the autopsy multiple infarctions with grayish centres were found in the cortex of the left kidney, the right being comparatively unaffected. Pericarditis and recent valvular disease, with excavation at base of one of the cusps (ulcerative endocarditis), were found, and infarctions in the centre of the substance of the heart. The rapidity of the course of the case was especially interesting. Dr. Weir had not seen in acute pyæmia heart lesions so distinctly marked as in the present instance. There were no lacerations of the urethra, but evidences of croupous cystitis were present.

The Society then proceeded to the transaction of miscellaneous business.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, December 6, 1883.

THE PRESIDENT, R. A. CLEEMANN, M.D., IN THE CHAIR.

DR. W. GOODELL exhibited two

CYSTS OF THE PAROVARIUM,

and remarked: Both patients got well; he, indeed, had never lost a patient from whom he had removed a parovarian cyst. In both cases a correct diagnosis was made previous to the operation. One interesting diagnostic point was the complete absence of the *facies ovariana*. The color in the cheeks was good, and the countenance was free from the anxious expression present in cases of ovarian tumor. One tumor had existed for ten years, the other for one. Another important point in the differential diagnosis is not only the flaccidity of the tumor, but its variable degrees of flaccidity. Upon inspection, it is seen to reach to the sternum, and seems to occupy a large portion of the abdominal cavity, but when the hands are placed upon its sternal edge, it can be compressed to the level of the umbilicus. An ovarian cyst, on the contrary, is hard and uncompressible. Exceptions to this rule are very rare, that is, either a tense parovarian cyst, or a flaccid ovarian one. A third important distinguishing point is the long time—ten years in one case—which the tumor existed, and further without marked deterioration of health. After being tapped, these tumors usually refill, but occasionally they do not, and a cure is thus brought about. The fluid withdrawn has been in every case limpid and generally colorless, but it has sometimes had in his experience an emerald tint. These tumors are generally free from serious adhesions, but if, in an operation for the removal of one, adhesions should exist where for any reason their forcible separation would be unadvisable, or the cyst were intraligamentous, he would not hesitate to leave the adherent portion of the cyst-wall or the whole cyst itself, after making a big hole in it, as the fluid it secretes is bland and unirritating to the peritoneum.

Any one examining one of these cysts for the first time, would consider it to be of ovarian origin: for it is only by patient search that the ovary can be found spread out over the cyst-wall. The microscope will decide with certainty in any otherwise doubtful case. The tumor is covered with a beautiful network of veins.

When a cyst of the parovarium exists on one side, the ovary of the opposite side is usually found to be diseased, and should be removed. In these cases the remaining ovary was seen to be enlarged, and the site of a small ruptured cyst was pointed out. The Fallopian tube was also enlarged, and the terminal vesicle of the Fallopian tube, or the hydatid of Morgagni, was

enlarged and cystic. This hydatid sometimes attains the size of an orange, and often ruptures spontaneously without any bad effects. A few years ago, one of these small cysts ruptured while he was making an examination of the patient to ascertain its character.

DR. GOODELL exhibited a

CANCEROUS WOMB REMOVED PER VAGINAM.

In view of the very large mortality of the operation for the removal of the womb for the radical cure of uterine cancer, he had been unwilling to perform it. In most of the cases where the disease had been seen early enough by him to give a chance of success, the patient had been unwilling to take the risk. On one occasion when every preparation had been made to operate, the patient had a convulsion, and an examination of the urine showed a high proportion of albumen, in consequence of which he refused to operate. About a month ago, Dr. Chas. W. Dullles called on him in consultation to see a patient in whom the carcinomatous condition was limited to the anterior lip. The womb was movable. The case was put frankly before the patient, and all its dangers pointed out. The choice of them being given to her, she decided, after due consideration, to take the risks of the radical operation. The operation was not as difficult as he anticipated.

The first step in the operation was to scrape away all cancerous tissue, and to sear the remaining surface with Paquelin's cautery. The vagina was then thoroughly cleansed. A stout thread was passed through the cervix to draw down the womb, instead of using a volsellum, the handles of which would be in the way. A circular incision was made around the cervix, and the tissues were stripped up anteriorly and posteriorly to the reflection of the peritoneum, and laterally to the insertion of the broad ligaments. Finally, the peritoneum was opened, and the womb retroverted into the vagina by means of the obstetric crochet passed over the fundus. A strong thread was now passed through the body of the uterus, by means of which to manipulate it more easily. A ligature was now passed around the broad ligament of the right side, and secured it *en masse*, and a second double ligature was passed through it, and tied on opposite sides. This side of the broad ligament was then divided, the uterus drawn down, and the ligament of the left side secured in a similar manner, and divided. The vaginal wound was closed and dressed with iodoform and cotton. A frank peritonitis set in on the third day, and proved fatal on the fourth. The result made him doubtful whether the operation is ever justifiable; he indeed felt disposed to avoid it whenever possible.

DR. E. E. MONTGOMERY inquired about the feasibility of using the galvanic wire *écraseur* to divide the broad ligament, keeping the wire at a low red heat, and dividing the tissues slowly, and avoiding the necessity for a drainage-tube. Another method which he had been revolving in his mind was, by means of the galvanic knife, to dissect out the uterus, leaving the peritoneum intact, thus imitating, to a certain extent, the operation of Dr. Marion Sims, of scraping and the use of zinc chloride.

DR. GOODELL thought that Dr. Montgomery's galvanic wire would get too hot as the loop became small, and would then divide rapidly like a knife, and incur the danger of secondary hemorrhage. He feared that the steam generated by the hot wire would penetrate the peritoneal cavity, and have an irritating effect. He has a galvanic cautery-battery, but has not used it since the introduction of Paquelin's benzoline cautery, as he finds the latter far more handy and manageable. He thought Dr. Montgomery's suggestion of shelling out the uterus a good one.

DR. MONTGOMERY exhibited, through the courtesy of Dr. W. H. Warder, the

UTERINE APPENDAGES

which had been removed from a young lady for the relief of dysmenorrhœa, which had resulted in physical and mental failure. Menstruation had commenced at the age of fourteen years, had always been painful, and had developed hysterical manifestations. Bathing at the sea-shore had at one time stopped the periods for three months; after this her health failed; her mind had been seriously affected for the last three years, and she would run away, or do herself some violence at the menstrual periods if not closely watched. Examination: the uterus enlarged and tender; there was profuse leucorrhœa. The os uteri was dilated, and the uterine cavity scraped and cauterized with carbolic acid and bromides, etc., used internally, but no improvement resulted. The ovaries were removed today through abdominal section; catgut ligatures were used. The ovaries are very much enlarged, and contain small cysts. The abdominal wound was closed with silk sutures, and covered with an impervious dressing of collodion, cotton, etc.

HYSTERO-EPILEPSY AS A COMPLICATION OF PREGNANCY.

DR. WILLIAM H. SHIPPS, of Bordentown, N. J., sent the following contribution:

Briefly defined, hystero-epilepsy is a term applied to an abnormal neurotic condition in which are manifested certain phenomena characteristic both of hysteria and epilepsy. Out of two hundred and seventy-six patients confined at La Salpêtrière Hospital, Paris, under treatment for various nervous affections thirty-two were diagnosed by Beau, a careful observer, as suffering from this disease. Among this number the malady assumed either a distinct or combined form, hence he very wisely groups the cases into two classes. In the first, the hysterical seizures and epileptic fits remain distinct, one from the other; to this form he adapts the term given by Landouzy, and designates it as hystero-epilepsy with distinct crises.

In the second class, and the one of which this article furnishes an illustration, the hysterical and epileptic seizures are coeval, both developing at the same time; to this form the name of hystero-epilepsy with combined crises has been given. The object of this paper is, not to enter into a consideration of the disease as it is met with in general practice, but simply to examine it as a complication of pregnancy, a standpoint from which fortunately we are rarely called to view it.

During the early part of March, 1883, I was called to attend a woman said to be in a fit. Arriving at the house, I found, lying on a bed, a young woman apparently seventeen or eighteen years of age, of fairly vigorous physique, who was striving against the united efforts of two or three neighbors who sought to prevent her doing herself bodily harm in the violence of her struggles. Examination showed entire loss of consciousness, eyes open and staring, pupils widely dilated, frothing at the mouth, which was then tightly closed, pulse full and bounding. Inquiry elicited that during the day she had been visiting a friend, herself the subject of some spasmodic affection, and whilst in her company became greatly exercised by some trivial occurrence, and in this state of excitement returned home, which place she no sooner reached than she was seized with a convulsion. Her husband informed me that she was in the third month of pregnancy, and that prior to this morning had on one or two occasions attacks somewhat similar, though of less severity. I at once injected hypodermically one-third grain of morphine, which in a short time was followed by a total disappearance of all spasmodic action, a state of stupor superven-

ing from which in the course of three or four hours she aroused apparently as well as ever. On the day following, I was called to see her and found her in a state of high nervous excitement, sobbing and deploring the presence of some impending danger which she, in her imagination, insisted was threatening her. In a short time the stage of muscular contraction, loss of consciousness, stupor, etc., took the place of the hysterical symptoms, finally terminating as before in a return to her normal condition.

Without attempting to follow the case step by step, taking in all its details, and noting the many and peculiar phases through which it passed, it is interesting to note that prior to September 23, 1883, covering a period of two hundred days, not a day passed without the occurrence of one or more paroxysms. At times the hysterical phenomena would be most marked and usher in the attack; then again the epileptic fit would take the precedence, always, however, accompanied by the undeniable imprint of the dual disease hysteropilepsy. In the inter-paroxysmal period she enjoyed for the most part average good health.

On the morning of September 23d, I was asked to see her in an attack of more than usual gravity. When I reached the house she was profoundly unconscious, and had been so for several hours. The time for her approaching labor being near I made a vaginal examination, but found no evidence of commencing uterine action. I ordered a hot mustard bath, mustard to the extremities, and bromides the moment she should be able to swallow. In the evening, when I again called, her condition was apparently unchanged. I then ordered a blister to the nape of the neck and left the patient, to return early in the morning. At 7 A.M., a messenger called stating that the woman was now perfectly rational, and, to all appearance, in labor. I at once responded and found that she was having bearing down pains of moderate intensity at intervals of five or ten minutes, mouth of womb dilating, vertex presenting. I remained by the woman's side until 3.45 P.M., when the child, a healthy female weighing nine or ten pounds, was born. The labor did not differ from ordinary labors, except that it was only by the utmost vigilance that the woman was prevented falling into one of her accustomed attacks. After the birth of the child, I gave it to the mother, at the same time remarking to her, that, as she valued the life of the child, under no circumstances to allow herself to have another convulsion. She promised faithful obedience, and up to the present has not shown the first indication of her old trouble. It should be mentioned that during the entire period the patient was under observation, she had daily taken large doses of the bromides and other nervines, without any effect save perhaps in ameliorating the number and violence of the paroxysms. The case is interesting on account of the rarity of the disease as a complication of pregnancy; its persistence throughout the entire period; its resistance to all remedial measures, and the final disappearance of all symptoms after the termination of labor.

Two queries very naturally present themselves: What was the exciting cause of the attacks? Would the induction of premature labor in this and similar cases be justifiable?

In answer to the first query, I attribute the attacks to an action upon the brain and spinal cord, reflex in its nature, and developed or excited by the fetus in utero.

The happy termination of the case would seemingly offer a negative to the second query; but better judgment will, I think, suggest the wisdom of the operation, and the danger of refusing to employ what theoretically, at least offers the only chance of relief; at all events, in a similar case I would most certainly

have recourse to the operation, and expect from it the best results.

CORRESPONDENCE.

ACTINOMYCOSIS IN ANIMALS.

To the Editor of THE MEDICAL NEWS.

SIR: In your report of the Detroit Meeting of the American Public Health Association I am represented as denying "that the recognition of the actinomycotic character of the disease (of the jaws of cattle) was of so recent a date as claimed." Your readers will naturally infer that I deny the priority of Bollinger's demonstration of actinomycosis. Nothing could be further from the truth. What I do deny is the claim put forth by Dr. Belfield in his paper, that he was the first in America to demonstrate the existence of the actinomycoses in this disease. The fact is that ever since Bollinger published his observations, I have taught the true nature of the disease to my classes, and in February last, in connection with a diseased herd about which I had been consulted, I brought the matter before the Medical Society of Tompkins County, N. Y., exhibiting a number of microscopic slides of the fungus and stating the known facts as to its development in the bodies of men and animals. The following note from the Secretary of the Society gives quotations from the minutes of the meeting in question:

"ITHACA, November 26, 1883.

"PROF. JAMES LAW.

"DEAR SIR: In answer to your inquiries, I here transcribe from minutes of a meeting of the Tompkins County Medical Society, held February 21, 1883, at Ithaca, the following record:

"Prof. Law favored the Society with a clear statement of the nature and symptoms of actinomycosis occurring in various animals, and sometimes in man, and exhibited to us the cells of the fungous growth under the microscope."

"Respectfully,

"S. P. SACKETT,

"Sec. of Tompkins Co. Med. Soc."

About the same date I showed the slides of actinomycoses to several of my colleagues in the natural history department, to Dr. Wey, Jr., of Elmira, and others.

In a recent case about which I was consulted by a former student now raising stock in Montana I advised the excision of the fungus as far as possible, and the thorough treatment of the sore with iodized phenole. The result is given in this letter.

"FORT BENTON, M. T., July 22, 1883.

"PROF. JAMES LAW.

"DEAR PROFESSOR: I have been meaning to write you for some time on the result of my operation on the big-jaw. Immediately on the receipt of your letter I decided to try the experiment of cutting it out. The disease had run pretty long, and I was astonished to find it had eaten a cavity from the lower edge of the bone up along the teeth, about two inches wide at the upper edge, and in places cavities three-quarters of an inch deep. I had nothing but ordinary scalpels, and found it impossible to do it properly. I scraped the bone as well as I could, and painted it with carbolic acid and tincture of iodine. And here was the trouble: the blood and saliva were running so freely that they carried the medicine into the mouth, and the cow was continually sucking through the wound and swallowing. For a long time I thought she would die, as she became a mere walking skeleton, seldom lying down. I thought

this was due to the burning of her stomach with the iodine and the acid. I found, by feeling, that the fungus was growing anew, and I painted it thoroughly again with iodine, being careful not to get it into her mouth. Since then she has picked up wonderfully, the wound has healed up, the disease is apparently killed, and the cow is getting fat. I am confident now that I can cure it if taken in time, and am very glad I made the experiment. I had no means of preserving any of the fungous growth, but send some of the fragments of bone that were in it. . . .

"Resp'y, your old pupil,
"EDWARD C. RUSSEL."

The fragments sent proved as I had expected, that the *bug-jaw* of Montana was identical with the already familiar actinomycosis of New York.

I state these facts not because the question of priority in demonstrating the actinomycosis in America is a matter of any great importance when the pathology of the well-known disease had been once discovered by Bollinger, but because of the statement in Dr. Belfield's paper, that American veterinarians were still ignorant of the true nature of the malady, and looked on it as a scrofulous affection—a mistake into which I regret to see you also fall, notwithstanding my prompt repudiation at the Detroit meeting. As further illustrating the fact of the prior recognition of the actinic fungus in America, I may state that Professor Taylor, of the Agricultural Department at Washington, has for a length of time recognized the actinomycosis as growing in the lungs of dogs, and has cultivated the same artificially.

This susceptibility of the dog to the attacks of the fungus, which has been corroborated by Vachetta (*Osteochondro-sarcoma macrocellulare con Actinomyceti alla mandibola inferiore d'un Cane, La Clinica Veterinaria*, 1882), implies, as in man, the probable implanting of the disease from another source than grain, as neither of these genera consume grain in the uncooked condition. The dog can in no sense be called a graminivorous animal, so that the theory of Dr. Belfield, that the disease is peculiar to such subjects, is no longer tenable.

Though much remains to be learned as to the mode in which the germs are implanted in the tissues, the notorious predilection which they show for the vicinity of carrion's teeth, for the tongue, and for the pharynx strongly suggests that at the outset they usually secure a foothold in the morbid products of a sore, or in the partially devitalized tissues that are undergoing inflammation, and that once fairly seated their invasion of new tissue advances steadily in the products of the resulting peripheral inflammation. In a case which I saw in the Chicago Stock-yards, through the courtesy of Drs. De Wolf and Belfield, the disease extended on both sides of the upper jaw, around a pair of molars which had made an imperfect eruption, and which still remained so far beneath the level of their fellows that the enamel had not been worn off their tables. Between these teeth and the next adjacent ones were cavities filled with the debris of food. In the majority of cases that I have seen, diseased teeth or alveolæ have been a prominent feature. This, taken with the fact that the malady so often starts in the jaws of the young, about the period of the second dentition, suggests a frequent etiological connection with dental disease. When actual disease of the teeth has not already existed, there is still the presumption that the actinomycosis had become lodged in the cavity left after the evulsion of the deciduous tooth, and before the growth of the permanent one, seeing it could then make its way so easily through the irritated and inflamed periodontal membrane into the osseous tissue

beneath. In other cases, doubtless, the germ makes its way through the superficial abrasions which are so liable to happen about the mouth in vegetable feeders.

The precise measure of the danger to man must be determined in the future. We must ascertain by experiment the temperature at which the fungus is destroyed in cooking; also in what medium it lives out of the animal body, and its consequent opportunities for entering the body in food, water, and air. The discovery of the fungus already in over thirty human bodies, the frequency of the disease in such a large class of quadrupeds, and the especial liability of the herbivoræ (ox, horse, goat, swine, rabbit) implying the probable growth of the fungus on vegetable products, invest the disease with an importance which must command the attention and investigation of sanitarians. There is reason to believe that the malady is indigenous to certain districts. I have known it to attack three successive generations of cattle living in the same place. Again, in certain herds, I have seen as many as four or five individuals suffering at the same time. Yet I have not, so far, been able to trace any etiological connection with a particular geological formation, nor with any peculiarity of the flora. Its connection with grain-feeding is probably quite as much owing to injuries to the teeth and gums from the flinty seeds, as to these being the true vegetable habitat of the fungus. This is the more probable since we find the disease on the pastures of Texas and Montana in cattle that have never seen grain, and in the distillery stables at Peoria and elsewhere, among cattle drawn from the pastures in question, and fed grain only as distillery swill, which has been subjected to a boiling temperature.

Respectfully,
JAMES LAW,
Professor of Veterinary Medicine.

ITHACA, N. Y., November 28, 1883.

OBITUARY.

THOMAS STORY KIRKBRIDE, M.D., LL.D.

DR. THOMAS S. KIRKBRIDE, Physician-in-Chief and Superintendent of the Pennsylvania Hospital for the Insane, died on Monday morning, December 17th, after a protracted illness, at his residence, within the grounds of the institution which, for over forty years, he had faithfully served.

Dr. Kirkbride's habitually vigorous health sustained a severe shock four years ago in a prolonged illness, from the effects of which he only partially recovered. About two years ago, he had a second illness, from which again he rallied, and last winter he was able to resume a considerable portion of his ordinary duties. In the spring, he was again, however, prostrated, and never rallied to any hopeful extent. During the last few weeks, there have been periods of temporary improvement, and he has even been able to drive in the Hospital grounds. On December 14th, he had a severe chill, and gradually relapsed into coma, from which he never rallied.

Dr. Kirkbride was born on July 31, 1809, near Morrisville, Bucks County, Pennsylvania. His ancestor, Joseph Kirkbride, came to this country from the parish of Kirkbride, County of Cumberland, England, with William Penn, being connected with the Society of Friends, as have been his descendants down to the present generation. He received his academical education at Trenton, N. J., and graduated from the Medical Department of the University of Pennsylvania, in March, 1832, the subject of his thesis being "Neuralgia." In the following April he was appointed resident physician to the Friends' Asylum for the

Insane, in which position he served for one year, when in March, 1833, he was elected resident physician to the Pennsylvania Hospital, where he remained two years, after which, settling in Philadelphia, he engaged in private practice, devoting himself principally to surgery, and at this time he was physician to the House of Refuge, the Institution for the Blind, and the Magdalen Asylum.

In October, 1840, without solicitation on his part, Dr. Kirkbride was elected Physician-in-Chief and Superintendent of the Pennsylvania Hospital for the Insane, a new institution on the west side of the Schuylkill River, then nearly completed, and to which it was intended to remove the insane from the old hospital at Eighth and Pine Streets. The new hospital was opened on the 1st day of January, 1841, since which time he has had the care and management of it. By constant improvements and additions to the original building this institution, which was then only capable of receiving a hundred inmates, now accommodates upwards of five hundred. In 1854, the original building having become crowded, Dr. Kirkbride recommended the erection of a new one on the grounds of the institution, which comprised a tract of one hundred and thirteen acres, and he urged the complete separation of the sexes as though in two distinct institutions. He further recommended that the building proposed should be erected through an appeal to the public, which, accordingly, was made, and with entire success, the building being completed wholly with private contributions, exceeding in the aggregate \$355,000. This new building was a third of a mile distant from the other. It was erected in accordance with his own carefully prepared plans, and is so admirably adapted to the purposes for which it was intended, that it has been a model for similar buildings which have been subsequently erected. The new building was opened in October, 1859, and since that time the Pennsylvania Hospital for the Insane has consisted of two separate departments—one for men and one for women—each having a capacity for two hundred and fifty patients, and entirely distinct from each other in all their arrangements, though with the same physician-in-chief and the same board of managers. The success of this experiment, which he inaugurated, has been complete, and has led to the adoption of the plan in other institutions.

As an authority in mental disease, Dr. Kirkbride enjoyed the highest reputation, and his name was so identified with the great institution of which he was the physician-in-chief, that "Kirkbride's" has become in this country the popularly used synonym of the English "Bedlam." He was a careful student, and possessed marked executive ability. His faithful devotion to the interests of the institution confided to his care has frequently elicited the admiration of its managers.

Dr. Kirkbride was of square build and medium height, with a firm mouth, penetrating eye, and a charmingly benevolent face, which was expressive of his great modesty, spotless integrity, and rare virtue. He was endowed with a wonderful tact in the management of the insane, and he was able quickly to win the affections of even his most wayward patients, and his forbearing gentleness and wise firmness enabled him to exert the best influences upon all who came under his care.

His writings have given him a high reputation. His "Propositions relative to the Construction of Hospitals for the Insane," first adopted by the Association of Medical Superintendents of American Institutions for the Insane, has been repeatedly reaffirmed by them, and were published in 1854, with notes and additions, under the title of "The Construction, Organization, and General Arrangement of Hospitals for the In-

sane," of which a second edition was called for in 1880. In his annual reports Dr. Kirkbride, year by year, discussed at length, nearly every subject connected with the treatment and care of the insane, and they constitute a series of great value to the student of mental diseases.

No man in the United States has devoted himself more entirely to the care of the insane than Dr. Kirkbride. From the day of his appointment to the superintendency of the Pennsylvania Hospital for the Insane, his whole thought was given to whatever would tend to relieve the mental disorder of those placed in his care, and everything which could in any way assist in that work was laid under tribute from the firm belief he entertained that nothing should be overlooked, for a reason clear to every one that small things often have a great influence in turning the current of thought and diverting to happier or more gloomy thoughts as the incident may itself determine. No one can read the very able, conscientious, and practical reports which have emanated from him during more than forty years without being fully convinced that his whole energy was given to his work, and the results of that work are shown in those reports, and in his work on the "Construction of Hospitals for the Insane," which places the reader in possession of practical conclusions and sound deductions from long experience, which can be relied on while the shifting sands of theory are blown away.

The wonderful changes which have been effected in the last forty years in the treatment of the insane may, in great part, be attributed to his labors and his influence on his brethren connected with the different institutions. The amount of restraint used at that early date was greater than even those who write so much on the subject know, and Dr. Kirkbride's efforts to change that condition of things were earnest and persistent, and, while not a believer in absolute non-restraint, so zealously advocated by some whose experience is infinitesimal when compared with his, he yet held firmly to the opinion, as he did to all that he had formed cautiously and deliberately, that restraint should be used only when the condition of the case, and the benefit of his fellow-patients, really demanded it, or, in other words, on the same principle that a surgeon would apply a splint to a broken limb; and the truth was strongly expressed by Dr. Bucknill, of England, that while Dr. Kirkbride believed in restraint, he rarely used it.

Dr. Kirkbride was one of the founders of "the Association of Medical Superintendents of American Institutions for the Insane," and for eight consecutive years was its President. He was also a Fellow of the College of Physicians of Philadelphia, an Honorary Member of the British Medico-Psychological Association, and a member of the American Philosophical Society. His wife and six children survive him.

NEWS ITEMS.

BALTIMORE.

(From our Special Correspondent.)

THE JOHNS HOPKINS LECTURES ON MUNICIPAL HYGIENE.—The last lectures of Dr. J. S. BILLING's interesting and instructive course on *Municipal Hygiene*, have now been delivered at the Johns Hopkins University. It is to be hoped that the important matters which he discussed will not be overlooked by the health and other municipal authorities, and that many evils to which he called attention, will soon be remedied. Below is an abstract of the last four lectures.

Schools and Education.—School-regulation, a most important subject in municipal hygiene, should be under

the supervision of the city; legislation on this point being just as appropriate as against the overcrowding of steamers, tenement houses, etc. The dangers of school-life to health, both in public and in private schools, are of three kinds: 1. Those connected with the plan and location of the school-building. 2. Those connected with the course of studies. 3. Those connected with the spread of contagious diseases. Those of the first class are due to insufficient size of building for the number of pupils, to insufficient ventilation, and bad light. In school-building, these points and security from fire are most important things. Many children, especially Germans or of German descent, have eyes slightly abnormal, which abnormality is often increased by school-life. Many think that the number of abnormal eyes is increasing; and though the increase is supposed to be due to better methods of diagnosis and increased attention to the subject, the balance of evidence lies on their side. Shortsightedness is more common in city schools than in those of the country; this is probably due to the greater amount of study done at night, especially with the ordinary flickering gas-flame in the city. In schoolrooms the light should come from the left side, or, much better, from both sides. In regard to *ventilation*, each student should have thirty feet of pure air per minute to keep the air in the schoolroom pure. To supply this steadily and without draught, requires special arrangements, careful supervision, and a great amount of fuel (to make up for the great amount of heat lost in escaping air). The desk should be of proper height for the child, and the seat should properly support its back.

The duty of municipal authorities to provide for these requisites cannot be avoided on the ground of insufficient appropriation. The *elementary schools should first be provided for*, and then money may be spent upon schools for higher education, but not before. An important fault in our methods of education, is too much study at home. The teacher should instruct, and not simply hear the pupils recite. It is now acknowledged that the object of school-education is not so much to teach facts, as to instruct them how to think, and ascertain facts, etc. The evils from excessive study fall most heavily on girls between the ages of thirteen and seventeen, in whom they often only appear a few years afterwards. The principal diseases which are communicated by schools, are diphtheria (especially in America), scarlet fever (most important in England), and measles. It is found that there is a regular increase in the number of cases of diphtheria when schools are opened and a decrease at their close. These diseases are not only communicated through the air, but also directly by drinking from the same cup, eating the same apple, putting pencils in mouth, etc. The way to avoid these is by employing constant skilled medical inspection, as is done in Brussels, where there has been no epidemic, though there have been in neighboring cities since the system has been introduced. This inspection should not be confined to the public schools, but also to private, day, and boarding schools.

Food, Markets, etc.—The health of a community depends on the quantity, quality, and regularity of its food supply. To bring just enough diversified supply of food for a city is accomplished, not by any deliberate exercise of human wisdom, but by men each interested in himself, but who unconsciously combine to effect an object, the vastness of which is bewildering to contemplate. Our supply of *meats* is good and ample, and there is little danger in eating them. The germs of infectious diseases which might be communicated by them are killed by thorough cooking (as is that of tuberculosis, too, in all probability). There is great danger, however, to cleanliness in having many

private slaughtering houses. The way to obviate this is by having a public abattoir, either managed by the city or by a firm with power granted by the city. In Boston, the leading butchers took the first step in establishing one. *Vegetables*, by not being always brought to consumers in a fresh state, cause various diseases of the digestive organs. *Milk* is one of the most important articles of food, and one most liable to carry disease. Being a fluid rich in all elements of nourishment, it becomes an excellent culture-fluid for germs. A drop of polluted water can fill a can of warm milk in a short time with the germs of various diseases. Great epidemics have been traced to milk which may have been rendered dangerous by adulteration with water, by rinsing cans with bad water, or by having been in the house of a dairyman whose family was suffering from a contagious disease. The flow of milk usually stops in diseased animals. Milk of a tuberculous cow sometimes causes tuberculosis in a child or an animal raised on it. The high rate of mortality among infants is due to want of proper food (mothers' milk or its next best substitute, fresh unskimmed cows' milk, sweetened and diluted). In tenement-houses in New York, infants of three months are often fed on the food of the rest of the family. It would be well to put some one firm in charge of all skimmed milk and prohibit all others from selling it, so that this article of food would not be taken from the poor, who are unable to procure other milk. *Oleomargarine* (when made from pure, sweet fat) and *glucose* are both useful and healthy. *Spices* and *coffee* are very often adulterated, but seldom objectionable from a sanitary point of view. That there is not much danger from *canned food* can be seen from the rare cases of poisoning reported, and the vast number of cans used. The salts of tin are not poisonous in small quantities, and in large quantities they would be unpleasant to the taste. A few cases of lead-poisoning have been reported (one, by the way, in THE MEDICAL NEWS for September 8, 1883, by a Maryland physician; but since, Dr. Billings has had those cans examined and analyzed under the supervision of Prof. Remsen, and no trace of lead could be found in the contents). It is well known that there is danger of poisoning from wall-paper with arsenical colors, which is now, however, much less common than formerly. The effects are often slight ailments, mistakable for other things. On the other hand, there is no danger to the inmates of a room of lead-poisoning in freshly painted rooms, though there is to the painter. A source of great danger are the *adulterated drugs*, which may deceive the physician by their action and cause him to make an erroneous diagnosis, at times to the injury of the patient, or even his death.

Jurisprudence of Hygiene.—In sanitary legislation the interests of the many conflict with those of individuals. Who shall yield or compensate the others? It may seem as if the State were interfering with liberty when she bids the householder to ventilate his drains in a certain way; the physician to keep record of and report deaths, etc. But it is not. The State has the right of eminent domain, *i. e.*, to take private property for public use when necessary; to demand service of individuals, and to furnish compensation for the same. The State has police powers by which she prohibits the storing of gunpowder, regulates the height of buildings, and the location of hospitals for contagious diseases, etc. Upon the plea of nuisance, she can interfere in privileges established by ancient customs, etc.; and she has the right to avail herself of the light of modern science. The power of cities to do the same is limited by considerations of cost. Many of our cities are so burdened with debt that they say they cannot afford to spend money on sanitary improvements; but since these soon pay for themselves in money and labor

saved and distress avoided, this plea can rarely be admitted as an excuse for permitting unsanitary conditions to remain. In this case, appeal must be made to the State. Law and equity are two distinct things. The common law says that the use of one's own property to the injury of the right of another is a nuisance; but it does not say what amount of discomfort. The importance and utility of a business have great weight in judging the question. As regards public health, the common law may be summed up "So to use thine own that thou dost not injure another;" but the remedy comes too late; pecuniary damages cannot compensate for ruined health and lost lives. In sanitary legislation, definitions of nuisances, descriptions of modes of procedure against them, should be as precise as possible. The State ought to provide for a full record of times and number of births, marriages, and deaths; for the gathering and dissemination of knowledge relative to the preventable causes of disease and death; for good drainage and sewerage; for the supervision of dead human bodies, cemeteries, etc.; and where needed for quarantine authority, and should give discretionary powers to boards of health of acting promptly and fearlessly, for subordinating private comfort to public safety, and for making all needful expenditures to avert and alleviate pestilence. The word quarantine is now used in two different senses: (1) the detention for a fixed time as a test of the presence of contagious diseases in suspected vessels (which carried to extreme is non-intercourse), and (2) maritime inspection to secure clean and healthy ships, which requires a short detention. Against smallpox, quarantine is of little value, except in compelling vaccination. If the community is vaccinated, and it should be constantly vaccinated and revaccinated, this is unnecessary, and if unprotected it is no preventative. Quarantine against *cholera* is efficacious, except when the disease has already a foothold. Since cholera appears here two years after it appears in Europe, it is highly probable that *we will have it here in a few years*, for it promises to appear in Europe next year. Our streets should be disinfected above and below the surface; all causes of soil pollution removed, etc., so that our cities are clean, when they will run little danger. To get a perfectly satisfactory quarantine, coöperation is necessary, not only between States, but among nations; yellow fever can be better kept away from this country if we inspect at Havana and other West India seaports, than at our own harbors. We have no simple preventatives against measles, scarlet and typhoid fevers, but by immediate notification and proper isolation much can be done.

Health Departments and Health Officers.—A single health officer for a city succeeds better than a board. Health officers should not be engaged in private practice, which, in various ways, would interfere with the proper exercise of his duties. The appointments should be made for not less than six years, and the compensation should be not less than \$3000, and in large cities at least \$5000 per annum. The appointment should be made by city officials. Competent medical men who are willing to give up a good practice to become health officers are few. We have not, as yet, men who are especially educated for that purpose, but we hope soon to have such provisions here, and to be able to send men from the Johns Hopkins University, with requisite guarantees as to fitness for such work. There are great difficulties in public hygiene; one great difficulty is ignorance—both want of information, which is easily removed, and misinformation, which is very difficult to clear up. If a man is about digging a cesspool near a well you can easily convince him of the danger, but it is difficult to show a man who has been drinking water from a well in the neighborhood

of a cesspool, that there is danger, for he has used it for so many years without harm, and it sparkles and tastes so well (often from the salts dissolved from the cesspool. Another objection is the increase of taxes, cost, etc. This ignorance is being very slowly removed by the press, lectures, etc., but the best place is in the primary and normal schools.

Statistics should be kept of private premises, and this can be best done by clubs, entirely separated from city authority, such as that of Chicago.

YELLOW FEVER IN MEXICO still prevails, there having been twenty deaths from this disease at Acapulco during the last week of November. At Manzanillo all industries are in a state of decadence due to the scourge, which Assistant Surgeon Main states still continues to be the reigning terror—agriculture particularly is paralyzed. The necessities of life are scarce, almost amounting to a famine. To this is added the calamity of a strike among the day laborers and seamen in the port. Assistance has been sent there, and funds are being collected for sufferers at all the ports of the Republic—about \$20,000 have so far been collected. President Gonzalez advises all places of interment of those dying of yellow fever, be covered two inches deep with unslacked lime, to prevent the exhalation of miasmatic poison. At Vera Cruz there are a few sporadic cases of yellow fever, from which it spread to Orizaba, where a good quarantine was kept up till the 20th of October, but was raised on the supposition that all danger had passed. It broke out in a malignant form, became epidemic, and was still prevailing on the 23d of November. The Governor of Sinaloa was among those attacked with yellow fever, but recovered.

YELLOW FEVER IN HAVANA.—Total deaths from yellow fever at Havana, Cuba, for the week ending December 8, 1883, reported by Sanitary Inspector Burgess, is stated to be twenty-three.

THE CHOLERA IN EGYPT.—The State Department is in receipt of a communication from the U. S. Consul-General at Cairo, Egypt, giving an account of the cholera epidemic in Egypt, which he obtained in a letter from His Excellency, Dr. Salem Pasha, President of the Egyptian Sanitary Council, in answer to an official request for the same. The report is accompanied with detailed statistics, fixing the number of deaths from cholera, officially reported from the 22d of June, 1883, to the 1st of September, 1883, at from 48,000 to 50,000 persons. A translation of the closing portion of the letter referred to is herewith given:

"As to the total number of mortality, the Council of Health is engaged in collecting precise statistics, and from those already obtained, the number of victims can be stated at from 48,000 to 50,000.

"As the Department is doubtless already informed by telegraphic despatches, and from other sources, the cholera, after having completely disappeared, again, about twenty days ago, reappeared at Alexandria, from which there have been officially reported from three to twelve deaths daily. In other parts of Egypt the epidemic seems to have completely disappeared, and the general health of Egypt has resumed its normal condition.

"In transmitting to your Excellency these official statistics, I deem it my duty to add that it has been found, upon a more careful verification, that the Official sanitary bulletins published during the prevalence of the epidemic were very erroneous, owing principally to the want of proper organization and sufficient number of agents in the Sanitary Department. As one example of these errors, on the twenty-fourth day of July, the sanitary bulletin fixed the number of

deaths in Cairo at 465, when, from other reliable sources, notably the police statistics, the deaths exceeded 1200.

"It is generally believed, in well-informed official circles, that the final result of inquiries, especially in the remote villages, will establish the number of victims from cholera during a period of nearly four months, from between 65,000 and 70,000.

"It will be interesting at another time to note the economic effects of this terrible destruction of life upon the prosperity of this unfortunate country.

"In many villages of the interior, a majority of the laboring population has died, and, in some instances, nearly entire communities have disappeared, so that not sufficient effective hands remain to cultivate and harvest the crops."

The deaths from cholera at Calcutta, for the week ending October 27, 1883, are reported to have been 20 out of a total of 243.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.—At the December meeting of the College the *Annual Report of the Library Committee* was presented, showing that there have been added to the library this year—

2186 volumes,
2107 pamphlets,
2862 numbers of journals.

The total number of volumes now in the library is 26,359. For the ensuing year, the Library will be kept open, except on Sundays and legal holidays, from ten o'clock A. M. to five P. M.

There are in the collection 3381 duplicates, and particular attention was called to this fact, inasmuch as it affords a rare opportunity to other libraries, of augmenting their list at comparatively small expense.

The *Report of the Committee on the Directory for Nurses* showed that the number of nurses registered December 1, 1882, 209
Added during the year, 104
Lost by striking from roll, 6
Lost by withdrawal, 4 10
Net gain, 94

Present number, 303

Total number of nurses furnished during the year, 733—an average per month of 61, as against 49 for last year.

Largest number (February), 84
Smallest number (August), 34
Sent outside of the city, but within the State, 63
Sent to other States, 59
Wet nurses furnished, 17
Of registered nurses, there are males, 39
" " " females, 264
Graduates of training schools, 60
Non-graduates, 243

Many physicians take great trouble and waste much valuable time in hunting up nurses personally; or, having obtained a good nurse through the Directory, they transfer her from one patient to another directly, instead of through the Directory. Were they to use the Directory they would obtain the same nurses, and add to the income of the Directory, and so to the appropriation to the Library.

It is the desire of the committee to make the Directory also a bureau for all needed information for the sick; and they have in contemplation measures by which, if any one desires to obtain boarding in the country, or at the seaside, for cases of whooping-cough, or for recent cases of measles, scarlet fever, or diphtheria; and for information concerning all appliances for the sick, such as invalid-chairs, wheel and

other crutches, bed-rests, fracture-, water-, or air-beds, etc., he may obtain the object he seeks at the Directory.

The amount given to the library during the last year was \$200, and for the present year, \$300.

DR. ALBERT H. SMITH will sail from Liverpool on December 22d, after an absence from home of six weeks. Dr. Smith's friends will be greatly gratified to learn that his health is much improved. While in London he was under the professional care of Sir Henry Thompson, who entertains the opinion that under appropriate treatment he will get perfectly well.

Dr. Smith has just paid a brief visit to Edinburgh, where he was the recipient of much hospitality, and was so fortunate as to see Keith perform one of his brilliant ovariectomies.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending December 8, 1883, indicate that intermittent fever, rheumatism, and influenza have increased, and that bronchitis, erysipelas, and diphtheria have decreased in area of prevalence.

Including reports by regular observers and others, diphtheria was reported present during the week ending December 8th, and since at fifteen places; scarlet fever at twenty-three places; and measles at nine places.

OBITUARY RECORD.—At Boston, on December 16th, CALVIN ELLIS, M.D., Jackson Professor of Clinical Medicine in Harvard University.

Dr. Ellis was educated at Harvard and received his degree in the arts in 1846, and in medicine three years later. He was one of the attending physicians to the Massachusetts General Hospital for a number of years, and Dean of the Harvard Medical Faculty.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 10 TO DECEMBER 17, 1883.

CAMPBELL, JOHN, *Lieutenant Colonel and Surgeon*.—Having completed the duties pertaining to the office of the Medical Director of the late Department of the South, to proceed from Newport Barracks, Kentucky, to New York City, and assume the duties of Attending Surgeon in that city.—*Par. 12, S. O. 284, A. G. O., December 12, 1883.*

CLEMENTS, BENNETT A., *Major and Surgeon*.—Relieved from duty as Attending Surgeon, New York City, and detailed as member of Army Medical Examining Board, now in session in New York City.—*Par. 12, S. O. 284, A. G. O., December 12, 1883.*

MCKEE, J. C., *Major and Surgeon*.—Assigned to duty as Medical Director, Department of the Columbia.—*G. O. 31, Department of the Columbia, December 3, 1883.*

WILLIAMS, JOHN W., *Major and Surgeon*.—Leave of absence on surgeon's certificate of disability granted in S. O. 157, November 12, 1883, Department of the Columbia, extended five months, on surgeon's certificate of disability.—*Par. 6, S. O. 286, A. G. O., December 14, 1883.*

SHUFELDT ROBERT W., *Captain and Assistant Surgeon*.—Now on sick leave, relieved from duty in the Department of the East, and assigned to temporary duty in the office of the Surgeon-General of the Army.—*Par. 12, S. O. 284, A. G. O., December 12, 1883.*

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 2004 Walnut Street, Philadelphia.